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THE KYOTO PROTOCOL AND VULNERABILITY: HUMAN RIGHTS AND EQUITY DIMENSIONS

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Given the broad-based nature of climate change, the focus of law and policy has never been exclusively environmental. Economic and trade issues have, for instance, played a key role from the outset. While environmental and economic considerations have been central to the climate change legal regime, the same cannot be said for its human rights aspects.

The existing regime provides a number of entry points for the consideration of human rights. The notion of vulnerability is an effective starting point since it has been an important component of the regime since its inception.¹ This important concept must, however, be given more specific content if it is to be effective in shaping the climate change regime in the future. Vulnerability applies both at the level of states and people. Concerning states, differential treatment already provides the conceptual basis for addressing vulnerability. However, the framework needs to be thought afresh to make it more effective at capturing the varying vulnerabilities of different developing countries as well as to take into account changed circumstances since the adoption of the Climate Change Convention (UNFCCC). Concerning people, the climate change regime needs to move beyond its traditional international environmental law model to encompass consideration of the specific vulnerabilities of individuals and communities. This is best achieved through the language of human rights that has already been widely discussed in environmental law contexts.

This chapter first examines the broad context within which human rights can be examined in the climate change regime. It then focuses on equity, one of the core concepts of the existing regime that provides direct and indirect links with human rights. It examines two dimensions of equity, first, in the context of emission reduction commitments and, secondly, in the context of the Kyoto mechanisms. The chapter then considers ways in which vulnerability could be given a much more central role in the future and examines a series of issues that concern the vulnerability of both states and individuals.

I. HUMAN RIGHTS, VULNERABILITY AND CLIMATE CHANGE

Despite numerous links, human rights have not been a significant dimension of climate change policy debates to date. The link between greenhouse gas (GHG) emissions and economic growth has directed debate toward economics, trade and finance. The addition of a human rights dimension has the potential to completely change the way in which law and policy are conceived in this area. Indeed, the human rights consequences of climate change are potentially so severe that, if taken seriously, they must prevail over economic and related considerations. Placing human rights at the centre of law and policy on climate change is a precondition for ensuring the legitimacy of climate change law and ensuring that measures taken on environmental grounds do not have negative human rights consequences.

Human rights concerns arise in the context of both mitigation and adaptation. Mitigation issues arise for developing countries with regard to taking on emission stabilisation or reduction commitments. Indeed, commitments are justifiable only if their consequences are completely offset for the majority of the poor. This is a direct consequence of the principle in human rights law that while countries can take progressive measures to realise socio-economic rights, they cannot backtrack.² Therefore, climate change commitments should not lead to any reduction in measures currently taken to progressively realise human rights. Thus, if steps were undertaken to reduce GHG emissions in the generation of electricity, they must be accompanied by measures to increase access to electricity for those who do not have access at present. This may require a reduction in consumption from wealthier individuals and economic actors or the installation of alternative, CO₂-free sources of electricity in villages.

Conversely, the realisation of the human rights to life, health, food, water and environment for the majority of the poor should be put at the centre of climate change policies. In other words, any shift away from a carbon-based economy must be conceived with the priority of realisation of human rights in mind.

In the context of adaptation, human rights consequences are easier to identify since there is an immediate connection between ongoing climate change-related damages and the realisation of human rights. Again, since the poor are the most vulnerable to climate change, they are also the most affected by ongoing damages. Thus, food shortages and floods induced by climate change invariably affect the poor first and need to be given priority.

1 Article 3(2) of the Framework Convention on Climate Change, New York, 9 May 1992 (hereafter Climate Change Convention). See Jon Barnett, Chapter 9, below.

2 Article 2(1) of the International Covenant on Economic, Social and Cultural Rights, New York, 16 December 1966.

II. THE CLIMATE CHANGE REGIME AND EQUITY

The notion of vulnerability, a central element of the climate change regime, emphasises the fact that countries and people are not similarly placed when it comes to making choices that influence their contribution to climate change or when it comes to the impacts of climate change. Vulnerability informs the development of differential treatment, the more specific legal measure on which the climate change regime is based. It is also directly related to human rights since people's vulnerability to climate change is a primary cause of the threats posed by climate change to the realisation of human rights.

A. Differential treatment and emission reduction commitments under the Kyoto Protocol

The international legal regime is premised on the neutrality of a system based on the formal legal equality of all states. As a consequence, rules are usually deemed just if they apply to all without discrimination.³ Existing economic or other inequalities are in principle not taken into account. The notion of differential treatment refers to instances where, because of pervasive differences or inequalities among states, formal legal equality and reciprocity are sidelined to accommodate extraneous factors.⁴ These include divergences in levels of economic development, different contributions to the creation of a problem or unequal capacities to tackle existing problems.

The legal entrenchment of 'differential treatment' is intended to progressively modify the existing status quo between states without seeking a completely new international framework. The principle of progressive realisation of socio-economic rights, whereby states are required to fulfil these rights only within the parameters of their resources, is an example of differential treatment. There is thus a close link between the progressive changes that differential treatment seeks to achieve at the international level and the progressive realisation of socio-economic human rights.

Differential treatment has a central role in the climate change legal regime.⁵ The historical responsibility for causing climate change is clearly borne by a limited number of countries broadly corresponding to those now classified in UN terms as developed countries. In terms of current emissions per capita, responsibility falls on the same group of countries. Further, it is also these countries that have the greatest economic and technological capacity to take measures to mitigate and adapt to climate change.

This relatively clear baseline for addressing climate change through international legal measures provided the basis for states negotiating the UNFCCC to agree on the principle of common but differentiated responsibility. The Convention is thus premised on the principle that:

Parties should protect the climate system for the benefit of present and future generations of humankind, based on equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.⁶

This principle was further developed in the context of the negotiations for the Kyoto Protocol, which led to the adoption of separate commitments for developed and developing countries.⁷ The fact that only one group of countries takes on emission reduction commitments based on the principle of common but differentiated responsibilities (the 'CBDR principle') is noteworthy because few international treaties have gone so far in the realisation of the implementation of differentiation. While only developed countries take on emission reduction commitments, this does not mean that developing countries are doing nothing to address climate change under the existing legal regime.⁸

³ See, for example, H. Peyton Young, *Equity in Theory and Practice* (Princeton University Press, 1994).

⁴ See generally, P. Cullet, *Differential Treatment in International Environmental Law* (Aldershot: Ashgate, 2003).

⁵ See, for example, L. Rajamani, 'The Nature, Promise and Limits of Differential Treatment in the Climate Change Regime', *Yearbook of International Environmental Law*, 16 (2007).

⁶ Article 3(1) of the Climate Change Convention, footnote 1, above. See also, Article 10(1) of the Kyoto Protocol to the United Nations Framework Convention on Climate Change, Kyoto, 11 December 1997 (hereafter Kyoto Protocol).

⁷ Article 3, Kyoto Protocol, footnote 6, above.

⁸ See, for example, P. Cullet, 'Equity and Flexibility Mechanisms in the Climate Change Regime - Conceptual and Practical Issues', *Review of European Community and International Environmental Law*, 8 (1999), 168.

Differential treatment constitutes an acknowledgement that the existing status quo is not conducive to achieving the basic fairness and solidarity goals that international law sets for itself. It thus suggests progressive changes through a system of specific rules that contribute to change in the existing pattern of inequality and bring about substantive equity in inter-state relations. Differential treatment is also relevant in a human rights context because an equitable international legal order cannot be conceived exclusively in terms of the relations between states. Indeed, equity between states and between individuals are but different sides of the same coin. This observation is reinforced by the fact that the grip that states have traditionally had over international legal relations is slowly being eroded with the increasing importance of a variety of other actors. Neither equity nor human rights require overnight changes but both require progressive change in a definite direction. In both cases, the focus is on the improvement of the situation of the poorest or most disadvantaged.

B. Equity in the context of flexibility mechanisms

The relatively progressive nature of the Kyoto Protocol from the point of view of emission reduction commitments in terms of equity was not achieved without some compromises. One of the major concessions that was made in the process of negotiating the UNFCCC, and more particularly the Kyoto Protocol, was the introduction of 'flexibility' under the guise of what are now known as Kyoto mechanisms.

Flexibility includes two distinct components. First, it provides an escape clause for developed countries that allows them not to implement the commitments they have taken on at home. This is novel in international law because countries are supposed to implement commitments they take by themselves. The rationale for allowing this flexibility is that what matters most is the global environment. Since emission reduction or emission avoidance has the same impact anywhere on the planet, flexibility provides a way of achieving emission reduction commitments through the cheapest emission reduction opportunities available anywhere in the world.⁹ As part of the difficult process for the adoption of the Kyoto Protocol, flexibility was even seen as a potential alternative to the multilateral negotiations able, in particular, to bring the United States on board.¹⁰ The clean development mechanism (CDM) met with approval from developing countries because it was seen as an instrument that would ensure additional foreign direct investment in host countries. As defined under Article 12 of the Protocol, the CDM seeks to facilitate joint emission reduction projects between Annex I countries and developing countries. It specifically emphasises the fact that projects must assist developing countries in realising sustainable development.¹¹ From the point of view of Annex I countries, its main interest is that certified emission reductions (CERs) accruing from CDM projects are credited to them so that they can use them as an additional means to comply with their commitments.¹²

Secondly, flexibility is novel because it gives much increased prominence to the private sector in the implementation of an international treaty. There is no necessary congruence between the 'outsourcing' of compliance and the private sector since the former could happen without the latter. Yet, in the context of the Kyoto Protocol, the two are intrinsically linked. This novel dimension calls for new safeguards to ensure that the focus on finding the cheapest emission reduction opportunities and the involvement of private sector actors in doing so do not compromise environmental and social objectives.

C. Equity and the clean development mechanism

The Kyoto mechanisms, and in particular the CDM, raise a number of questions concerning equity. First, the focus on finding the cheapest emission reduction opportunities raises questions concerning the justification of the CDM. The CDM was meant to be a subsidiary mechanism in achieving the commitments that developed countries had taken up. The underlying logic was that developed countries would be reducing their emissions and that a part of that reduction would come from CDM projects. However, between 1990 and 2005 emissions have significantly

9 See, for example, A. G. Hanafi, 'Joint Implementation: Legal and Institutional Issues for an Effective International Program to Combat Climate Change', *Harvard Environmental Law Review*, 22 (1998), 441.

10 See, for example, T. C. Heller, 'Environmental Realpolitik - Joint Implementation and Climate Change', *Indiana Journal of Global Legal Studies*, 3 (1996), 295.

11 Article 12 of the Kyoto Protocol, footnote 6, above.

12 Article 3(12) of the Kyoto Protocol, footnote 6, above.

risen in many countries with commitments. Some of the worst increases are in Spain (61 per cent) and Portugal (57 per cent), but countries in other regions of the world, such as New Zealand (41 per cent) and Australia (37 per cent), are not far behind.¹³ In fact, the list of countries that have actually reduced their emissions numbers only six and includes only two of the G8 countries, Germany (-15 per cent) and the United Kingdom (-6 per cent).¹⁴ The very logic of the CDM is thus undermined because it can (in principle) be used by countries with commitments as an authorised loophole to show formal compliance with their international obligations. Countries with commitments can safely rely on the fact that Article 12 of the Protocol, unlike Articles 6 and 17 and the decision setting up Activities Implemented Jointly under the Climate Change Convention in 1995, does not even mention that CDM projects must be supplemental to domestic action.¹⁵ However, it is not legitimate to use the CDM merely to achieve formal compliance, even if it does not go against the letter of the regime. Indeed, if developing countries signed up to the CDM in a spirit of global solidarity and partnership to contribute 'to the ultimate objective of the Convention',¹⁶ this was part of a balance based on the common but differentiated responsibilities (CBDR) principle which specifically implies that developed countries take the lead in mitigating climate change rather than rely on cheap emission reduction opportunities in developing countries. The necessity for massive investments in renewable energies, such as solar energy, constitutes one of the ways in which developed countries can demonstrate their leadership. While the CDM could be one of the vehicles used for such changes, this has not happened because incentives for the same have not been provided.

Secondly, the CDM has been conceived from the point of view of short-term mitigation gains. While Article 12 of the Protocol provides a basis for reducing the overall cost of compliance with emission reduction commitments, it does nothing to steer the world economy towards a low or zero carbon economy. This is due to the fact that the CDM, in effect, provides an escape route for developed countries unwilling to implement drastic energy policy changes. As a result, significant investments in new or existing alternative technologies are not being undertaken.¹⁷

Additionally, the CDM does not include a framework that would ensure that projects are prioritised in accordance with their impacts on the poor and vulnerable and the environment in general. This is of concern because there are many climate change friendly activities that are neither environmentally nor socially progressive and can thus have negative impacts on the realisation of human rights. One example is that of large dams.¹⁸ By the mid-1990s, it had become widely recognised that large dams had significant social and environmental costs that required at the very least reconsidering their place in the context of the drive towards making development more sustainable.¹⁹ In the course of the present decade, the difficult learning curve of the previous two decades seems to have all but evaporated. Big dams have found a new justification because they are a climate change friendly source of electricity.²⁰ Yet, this does not answer any of the questions raised earlier concerning the justifications for big dams from a social or environmental point of view. In other words, while big dams may be better than coal-fired power plants from a GHG emissions perspective, this is insufficient to justify them.²¹

13 In the case of Spain and Portugal, while under the EU 'bubble', they are allowed, respectively, a 15 per cent and 27 per cent increase, both are still much above these redistributed commitments. For the intra-EU allocation, see, for example, Assigned Amount Report of the European Union, Report from the Commission, COM(2006) 799 final (2006).

14 See, for example, 'A Joke on the World', *Down to Earth* 16/14 (2007) 30, 32. In the case of Germany and the United Kingdom, these reductions are also much less than what they have to achieve under the EU bubble, respectively, a 21 per cent and 12.5 per cent reduction. See Report from the Commission, footnote 13, above.

15 See Articles 6 and 17 of the Kyoto Protocol, footnote 6, above and Decision 5/CP.1, Activities Implemented Jointly Under the Pilot Phase, in *Report of the Conference of the Parties on its First Session, Framework Convention on Climate Change, Conference of the Parties, First Session, Berlin, 28 March-7 April 1995*, UN Doc. FCCC/CP/1995/7/Add.1.

16 Article 12(2) of the Kyoto Protocol, footnote 6 above.

17 See, for example, G. Eklöf, *Broken Illusions - CDM in Practice* (Stockholm: Swedish Society for Nature Conservation, 2006), 19.

18 On dams and the CDM, see, for example, Lori Pottinger, *Bad Deal for the Planet: Why Carbon Offsets Aren't Working ... And How to Create a Fair Global Climate Accord - Dams, Rivers and People Report 2008* (Berkeley, CA: International Rivers, 2008).

19 See, for example, World Bank, Operations Evaluation Department, Learning from Narmada (Precis No. 88, 1995) noting that '[t]he broad lesson is that the social dimensions of civil works projects need much more attention from both the Bank and its borrower governments'.

20 See, for example, World Bank, Water Resources Sector Strategy - Strategic Directions for World Bank Engagement (Washington, DC: World Bank, 2004), 21 arguing that '[h]ydropower can, in principle, make a major contribution to reducing the greenhouse gas intensity of energy production'.

21 See, for example, P. Cullet, 'The Sardar Sarovar Dam Project: An Overview', in P. Cullet (ed.), *Sardar Sarovar Dam Project: Selected Documents* (Aldershot: Ashgate, 2007), 1.

Thirdly, the CDM has perverse long-term side-effects for developing countries. Indeed, the search for the cheapest possible emission reduction opportunities means that developing countries are exhausting these options for the benefit of developed countries' compliance with their own commitments. Such options will no longer exist once developing countries take on commitments, something that is unavoidable in the long term from a global environmental point of view. In the case of land-use projects, other issues may arise in the future. Where the positive climate change impact of a project is premised on the potential of timber to store carbon, two scenarios may arise. If the host country does not ensure that carbon absorbed under CDM projects is kept stored, the question may arise as to whether these emissions are to be attributed to the host country. If they were, this would constitute a double loss for the country affected. If the host country ensures that timber is maintained in the form of forest the issue that arises is the lack of recognition of the trade-off that this long-term land use for climate change purposes implies from the point of view of development opportunities for local people.²² There are also direct implications in terms of impacts on livelihoods and the realisation of human rights.

Fourthly, while the CDM can theoretically be an instrument of the public as well as the private sector, in practice it has largely been conceived as an instrument used by the private sector. This novel way to implement an international law agreement calls for specific safeguards to ensure that all the environmental and social conditions are complied with. The lack of an international body capable of such enforcement - the CDM Executive Board does not have such powers - implies that each country has to fulfil this at the national level. Additionally, this also means that there is no international supervision of the extent to which sustainable development is promoted through the CDM and vulnerability addressed. This is problematic for two reasons. First, the poor and vulnerable who would benefit from a levy on CDM projects for sustainable development activities have little capacity to influence a process that is led by governments and private sector interests. Secondly, the international framework guiding the CDM fails to provide effective guidance on technology choice and project focus.²³ The extent of the CDM's contribution to sustainable development and to long-term energy policy changes is thus left to individual host countries' decisions. The People's Republic of China (PRC) has, for instance, decided to tax different types of projects differently. Thus, for HFC-23 (trifluoromethane) and PFC (perfluorocarbon) projects - extremely potent GHGs that are relatively easy to eliminate - the government takes 65 per cent of the revenue generated by the transfer of CERs, while for energy efficiency improvement and renewable energy projects it only takes 2 per cent.²⁴ Similar measures must be adopted at the international level because governments may have their own reasons to favour their private sector industry over sustainable development and fail either to differentiate between types of projects or to tax projects for investment in measures favouring the most vulnerable.

Where there are no rules for distributing the revenue generated by CDM projects between different actors, cheap mitigating opportunities are used by private sector actors for their own individual benefits, as in the case of any other commercial transaction. This is problematic because without investments toward a low carbon economy it is citizens who will suffer the negative consequences of any emission stabilisation or reduction commitments that will be taken in the near- or medium-term future. In other words, private sector actors make money on account of climate change but since the projects for which CERs are obtained are not guided by a broader policy to reorient the economy toward a low carbon economy, the gains for broader society in either environmental, social or financial terms are negligible. Similarly, the CDM has the unfortunate consequence of pushing host countries to delay climate change measures because any measure required by law makes it then nearly impossible for a project to obtain CDM approval.²⁵

III. TOWARD A CENTRAL ROLE FOR VULNERABILITY

Negotiations for new measures to address climate change after 2012 are ongoing. Yet, the framework within which this is taking place is inadequate. As a result, a number of elements need to be either rethought or given new

22 See, for example, P. Cullet and P. Kameri-Mbote, 'Joint Implementation and Forestry Projects - Conceptual and Operational Fallacies', *International Affairs*, 74 (1998), 393.

23 In fact, even on the use of nuclear energy projects under the CDM, nuclear facilities projects are not barred but Annex I countries are to refrain from using the certified emission reductions generated. See Preamble, Decision 17/CP.7, Modalities and Procedures for a Clean Development Mechanism as Defined in Article 12 of the Kyoto Protocol, UN Doc. FCCC/CP/2001/13/Add.2 (2001); and Decision 3/CMP.1, Modalities and Procedures for a Clean Development Mechanism, as Defined in Article 12 of the Kyoto Protocol, UN Doc. FCCC/KP/CMP/2005/8/Add.1 (2005).

24 Article 24, China - Office of National Coordination Committee on Climate Change, Measures for Operation and Management of Clean Development Mechanism Projects in China, 2005.

25 Eklöf, footnote 17, above at 19-20.

content. This section focuses on some of the many issues that need rethinking in the continuous search for an effective climate change regime. It highlights the need for a new understanding of differentiation. It also emphasises the primacy of human rights and vulnerability as a necessary foundation of further measures on climate change. Further, it argues that air and the atmosphere should be recognised as a common heritage to ensure that the benefits of climate mitigation are not appropriated by private actors, but rather ploughed back into renewable energy or other measures that are sustainable and primarily benefit the most vulnerable. Finally, it argues that a new basis for allocating entitlements must be found to ensure that the poor and vulnerable are not indirectly dispossessed of something that is in essence humankind's primary survival resource.

A. Toward a new understanding of differential treatment for future emission reduction commitments

The basis for differentiation remains as strong as it was at the time of the negotiation of the UNFCCC. Indeed, on the whole it is the same small number of countries that contribute most to climate change in per capita terms. At the same time, there is still a majority of countries whose contribution to climate change is negligible, starting with all least developed countries. These countries are also the most vulnerable to the impacts of climate change.

Yet, rapid economic development in some parts of the world over the past decade has altered the balance of overall contributions that countries make. In particular, the share of big developing countries like India and the PRC in global GHG emissions has increased since 1990. This is due to the fact their emissions have been growing by at least 4 per cent per year, faster than any other region of the world.²⁶ Since the climate change legal regime is primarily about achieving a global environmental benefit, any substantial increase in emissions is to be taken into account, wherever the additional emissions are generated.

B. The case of India

The position of India is particularly noteworthy with regard to the need to rethink differential treatment for subsequent commitment periods. On the one hand, India remains without any possible doubt a developing country. India's position in the ranking of the Human Development Index at number 128, just ahead of several least developed countries like Laos and Cambodia, reflects the reality that the majority of Indians experience. On the other hand, India has experienced fast economic growth in recent years. Additionally, it has increasingly sought to flex its political muscle on the world stage by seeking recognition as a major power.

In terms of climate change, as in many other dimensions, India is today two countries. The India that shines has standards of living that often match those of developed countries with a concomitant negative environmental impact in terms of climate change. The India of the majority of the population has made little progress since 1990. Thus, 77 per cent of the population has an income of less than \$2 a day.²⁷ In fact, while there has been some reduction in the percentage of people in 'extreme poverty', the overall number of poor and vulnerable people has increased from 733 to 836 million between 1993-4 and 2004-5.²⁸

From an equity standpoint, India must be analysed from these two different perspectives. On the one hand, from the perspective of climate change, an international problem requiring the collaboration of all states to address it, India has a duty to contribute to efforts to mitigate climate change. In fact, India is already contributing to climate change mitigation through its involvement in the CDM like all other developing countries. Yet, progressively, more needs to be done. Additionally, from the perspective of a big country that shows no signs of overall vulnerability, it is increasingly difficult to justify that India should hide behind the veil of its 'developing country' status since it has little in common with countries like Malawi or the Maldives in terms of vulnerability.

26 Central Pollution Control Board, Newsletter (October 2002). Available at: www.cpcb.nic.in/News%20Letters/Archives/Climate%20Change/ch9-CC.html.

27 National Commission for Enterprises in the Unorganised Sector, Report on Conditions of Work and Promotion of Livelihoods in the Unorganised Sector (2007), 6.

28 National Commission for Enterprises, at 7.

On the other hand, the overwhelming majority of India's population is as vulnerable as the average inhabitants of other developing countries, including in many cases people in least developed countries. India's rank of 94 on the Global Hunger Index (out of 118 countries listed) reflects this other reality.²⁹ Equity, as realised through differential treatment in international law, cannot justify the imposition of emission reduction or stabilisation commitments in a way that would increase the vulnerability of the already vulnerable majority of the population. This would go against the idea of progressive realisation of fundamental rights.

C. Revisiting differential treatment

Differential treatment for the future needs to be rethought, since the legal regime must reflect the changes that have taken place since the early 1990s in the position of some developing countries, must reflect the increasingly central role that climate change plays among environmental issues and must reflect the fact that climate change is much more than an environmental and economic issue but also a core human rights issue.

First, it is increasingly difficult to attribute emissions on the basis of the fiction of legal equality of states alone. On the one hand, the direct or indirect contribution of each individual country varies, according to wealth and other factors. On the other hand, questions arise concerning the responsibility of a country for all emissions arising from its territory. The case of special economic zones (SEZ) is a telling example. Where companies invest under particularly beneficial conditions and where they export all the products they manufacture, equity requires that emissions be at least partly allocated to the actors that take advantage of the lax legal regimes that increase profits on products that are marketed in wealthier parts of the world. Beyond SEZs, a number of other situations may call for similar treatment, for instance, where deforestation is undertaken to use the cleared land to produce cash crops that are mostly exported. In this case, it is necessary to find new ways to allocate responsibility for climate change. These should take into account not only countries' contributions but also that of actors that directly benefit in economic terms from GHG emitting activities. This would constitute a useful application of the polluter pays principle. The issue can not, therefore, be reduced to a simple dichotomy between taking and not taking commitments. It is also not a simple case of whether developing countries as a block (the G77 group) should or should not take on commitments under the Kyoto Protocol.

Secondly, differential treatment is not in itself an instrument that seeks to favour developing countries. It so happens that under most existing treaties, differentiation has been approved based on countries' classification as developed or developing. Yet, since there is no generally agreed definition of which country is a developing country and since the decision is often left to self-identification, this is not in itself an effective guide. Further, the simple division into two groups is only for convenience's sake but is increasingly itself inequitable since it does not take into account the complete lack of congruence between the respective situations of Malawi and South Korea or Vanuatu and India. The real purpose of differential treatment, which is to foster substantive equality and a partnership among all countries in solving problems of a global nature, cannot be equated with the division of the world between developed and developing countries. There are thus a number of situations where developing countries should either be individually targeted for preferences or at least clubbed in smaller groups so that, for example, small island states that are going to disappear as a side-effect of climate change would not be put in the same category as OPEC countries that have become much wealthier because of the growth of the global carbon economy.³⁰

Thirdly, differential treatment goes beyond the granting of preferences based on differences in levels of economic development. In fact, differential treatment in environmental treaties seeks primarily to further the overall environmental goals of the agreement by fostering the participation of countries that may have little incentive to participate. Thus, in the case of climate change, developing countries as a whole would have had little incentive in 1992 to join a global legal regime to address a problem to which they had hardly contributed to.³¹

The implication is that differential treatment in the context of any subsequent commitment period under the Kyoto Protocol needs to be much more closely tailored to the overall environmental goals of the regime while providing

29 International Food Policy Research Institute, *The Challenge of Hunger 2007 - Global Hunger Index* (2007).

30 Least developed countries are, for instance, frequently targeted for preferential measures. See, for example, Articles 4(9) and 12(5), *Climate Change Convention*, footnote 1, above and Article 66 of the *Agreement on Trade-Related Aspects of Intellectual Property Rights*, Marrakech, 15 April 1994.

31 See, for example, D. Bodansky, 'The United Nations Framework Convention on Climate Change: A Commentary', *Yale Journal of International Law*, 18 (1993), 451, 463.

a much needed equity angle. This means that differentiation must be an instrument that takes into account both the contribution of each country to the problem, its capacity to mitigate and adapt and the vulnerability of its population. In the case of a country like India, this also requires going beyond a simplistic decision on commitments versus no commitments. What differential treatment calls for is that big countries like India and the PRC, whose emissions grow faster than any other regions of the world, take up their responsibilities as members of the international community and more specifically as aspiring military and political global powers. At the same time, the focus of differential treatment on equity clearly bars the imposition of any commitment that would harm the majority of the vulnerable population of these countries. Mechanisms thus need to be devised at the international and national levels to ensure that the burden of any commitments falls exclusively on polluting industries, on the people whose lifestyle makes a significant contribution to climate change and on government to ensure that climate change friendly policies are implemented. In other words, commitments should go alongside new forms of international technology transfers and new forms of resource redistribution at the national level.

It is clear that countries like India cannot simply curb their economic growth in a bid to satisfy the North. These countries must, nevertheless, urgently reorient their growth and find alternative economic development paths. One of the possible solutions is to rely on technology transfers where the North provides the more environmentally friendly technologies it has already developed to ensure that economic growth in developing countries is not hampered by taking climate change friendly measures. This could include, for instance, wind and solar energy technologies. Another solution lies in focusing on renewable energy, something that can easily be fostered by reallocating resources away from carbon intensive energy sources. In other words, addressing climate change does not have to be a costly proposition in terms of economic growth. It may, in fact, provide an excellent opportunity to rethink failed economic development strategies. Thus, climate change does not provide a basis for promoting just any energy source that is not harmful from a climate change point of view. Current efforts to suggest that nuclear energy is an apt alternative to carbon-based energy do not take into account the fact that nuclear energy has no justification from an environmental point of view. Indeed, while the actual production of energy may be harmless in terms of GHG emissions, nuclear energy is unacceptable from the point of view of its other impacts, particularly because there is no environmentally acceptable solution to nuclear waste at present and because a number of side-effects of nuclear power generation on human health are either unknown or not in the public domain.³²

With regard to resource redistribution, two main points can be made. First, one option may be for some developing countries like India and the PRC to take on commitments with a view to ensure that climate change is effectively averted. This would give a strong signal that the world cannot tolerate more emissions and that further economic development strategies need to be rethought throughout the world. The commitments taken by such countries benefit the global environment through climate change mitigation and reduced costs of climate change adaptation, and so the costs of these commitments should be borne in part or entirely by developed countries under the CBDR principle. Secondly, any form of compensation that is provided by developed to developing countries with commitments should be carefully targeted. Resources made available should be invested primarily in mitigation and adaptation measures for the poor since they are the most vulnerable and least able to adapt, as well as in measures that put the poor at the centre of any new economic development strategies. This is a matter of equity and human rights since both focus on the situation of the most disadvantaged. Together, this will ensure that differentiation contributes to global and local environmental benefits as well as to poverty alleviation and the realisation of human rights. This new framework is imperative to redirect climate change law toward being more environmentally friendly and more equitable.

D. Recognising air as a common heritage

Air has until recently been of little interest to lawyers, economists or policy makers. Indeed, while air is a basic element that allows us to survive, it was for all practical purposes beyond appropriation. This situation changed relatively quickly over the course of the twentieth century with the introduction of aviation, which led states to assert control over their airspace.³³ At the same time, the question of air pollution led to the realisation that while air may be beyond legal control, humankind was able to impact on air in various negative ways. Yet, a treaty like the Convention on Long-range Transboundary Air Pollution does not address the question of air pollution from

32 See, for example, A. Katz, 'Chernobyl: The Great Cover-up', *Le Monde Diplomatique* (April 2008). Available at: <http://mondediplo.com/2008/04/14who>.

33 Article 1 of the Convention on International Civil Aviation, Chicago, 7 December 1944.

the point of view of the right of states to pollute.³⁴ As a result, it proposes a series of measures to reduce air pollution without trying to ascribe entitlements or addressing the status of air or the atmosphere. Beyond airspace, which cannot be directly compared with air or the atmosphere, the only other dimension that states have addressed is that of outer space where the consensus is that it is a common heritage of humankind.³⁵

In the context of the climate change regime, the international community has agreed that the climate and its adverse effects are a common concern of humankind.³⁶ This implies an acknowledgement that the climate can be addressed only through the common action of all states, but it does not indicate whether states or individuals are in a position to lay specific claims on air or on air pollution. The Kyoto Protocol does not address this issue directly either. However, the Protocol indirectly provides the most polluting nations on Earth specific polluting entitlements. In other words, while no legal claims to air or the atmosphere are staked by any state, an indirect appropriation takes place. This is problematic because science has clearly shown that the global sink that is the atmosphere can only absorb a limited amount of carbon. Above a certain limit, consequences which are extremely harmful will most likely take place. In other words, the polluting rights indirectly given to developed countries under the Kyoto Protocol constitute entitlements that affect all nations on Earth.³⁷

The approach taken in the Kyoto Protocol is problematic. The starting point for regulating emissions is grandfathering, which indirectly rewards industries that have done least to cut back pollution before the adoption of the new regime. Grandfathering also rewards countries that industrialised early because their high level of pollution becomes the baseline against which reductions are debated. Countries that have lagged in industrial development suffer the double disadvantage under a grandfathering scheme of having lower levels of economic development and lower pollution levels that in turn entitle them to lower future polluting levels. Both equity and environmental concerns call for a different type of response to climate change. In terms of equity or environmental conservation, the shortcomings of grandfathering call for giving the climate change regime new bases. One of the starting points for a differently conceived regime is to rethink the legal status of air and the atmosphere.

The Kyoto Protocol is in principle a treaty focusing on an environmental problem. Yet, in reality because of the nature of the problem being addressed, the real focus has been on economic development and the impacts that addressing climate change will have on economic growth. The debate has thus been framed mostly as an economic development issue within the broader context of environmental quality. This is unfortunate because it sidelines increasingly important impacts of air pollution on human health and thus the realisation of the human right to health. More generally, the current regime fails to take into account the human impacts of air pollution and thereby fails to directly acknowledge that vulnerability is not just an issue in terms of the impacts of climate change but also in terms of the causes of climate change. For instance, the urban poor in developing countries are much more likely to be affected by air-related health issues than the middle classes.

Since air pollution cannot be regarded as being limited to a dichotomy between environmental quality and economic growth, the legal status of air must be conceived in a broader perspective. Given that there is only one atmosphere, it follows that it needs to be managed as such. Individual control over air is physically impossible and would go against the need for a global solution. Air, the atmosphere and the global climate should thus be seen as a common heritage of humankind that needs to be commonly conserved and managed. The most obvious starting point for developing this concept is the notion of common heritage developed in the context of the law of the sea.³⁸ Common heritage status implies first of all that no sovereign claims can be made on the area or resource covered.³⁹ It also prohibits unilateral appropriation and requires international cooperation in the exploitation of resources, for instance, by giving an international body the necessary authority.⁴⁰

34 Convention on Long-range Transboundary Air Pollution, Geneva, 13 November 1979.

35 Article 11 of the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, New York, 18 December 1979.

36 Preamble, Climate Change Convention, footnote 1 above.

37 See, for example, L. Lohmann, 'Carbon Trading - A Critical Conversation on Climate Change, Privatisation and Power', *Development Dialogue*, 48 (2006), 1, 74ff.

38 See United Nations General Assembly, Declaration of Principle Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, Beyond the Limits of National Jurisdiction, GA Res. 2749 (XXV), 17 December 1970, Resolutions Adopted by the General Assembly During its 25th Session, 15 September-17 December 1970, GAOR 25th Sess., Supp.28 (A/8028).

39 See, for example, E. Holmila, 'Common Heritage of Mankind in the Law of the Sea', *Acta Societatis Martensis*, 1 (2005), 187, 195.

40 See Part XI of the United Nations Convention on the Law of the Sea, Montego Bay, 10 December 1982 and Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982, New York, 28 July 1994.

The introduction of common heritage status for air and the atmosphere would make a significant contribution to policy debates on the future climate change regime. Indeed, it would provide a new solid basis for rethinking the allocation of emission reduction commitments and for regulating the use of flexibility mechanisms according to priorities focused on differential treatment and vulnerability rather than in terms of economic efficiency and the indirect allocation of individual property rights over a global heritage.

Common heritage status would, for instance, lead to setting a new framework for the CDM. At present the CDM provides essentially economic benefits to project partners. The CDM policy framework itself does not indicate how these benefits should be used. As a result, they can be used simply to foster the partner's business. Since benefits accruing through CDM projects are linked to climate change mitigation, under a scheme where air is a common heritage, there is no reason for project partners to receive unconditional benefits. Indeed, there are a number of social and environmental priorities that must be addressed in the context of climate change. The resources raised in the name of climate change mitigation should thus be used for activities that specifically contribute to addressing the global heritage since no one should be able to acquire direct or indirect rights to pollute something which is vital for survival for all living things. The use of CDM proceeds to address issues related to the global good is even more important in a context where governments often claim that they have insufficient resources to implement effective environmental and social policies.

Turning the air, the atmosphere and the global climate into a common heritage will no doubt be fiercely resisted by a number of actors who have and still benefit immensely from the absence of clear concepts determining who is entitled to 'use' air and 'pollute' the atmosphere. Yet, this is in fact but a small extension of the notion of public trust, a concept widely used.⁴¹ Interestingly, the Indian Supreme Court has already declared more than a decade ago that air is a public trust in India.⁴² The notion of public trust implies that the state has to act as a trustee on behalf of all individuals, must take a long-term view of its protection and must ensure socially equitable and environmentally sustainable access to and use of the resource.⁴³ It also implies that the state is not in a position to trade away or sell pollution rights or carbon credits in its role of trustee.⁴⁴ These safeguards include fostering the realisation of human rights and ensuring that no violations of existing protection levels take place, as well as the respect for environmental law in general and not just of climate change law.

E. Toward new forms of entitlements on air

The basis for today's climate change law is, on the whole, the grand-fathering of existing emission patterns. In political terms, this can be easily explained since any other formula would affect existing polluters more than the economic actors or the countries that contribute less to climate change. Yet, this is an ineffective way to address climate change. Indeed, while a baseline determined by existing energy use puts the burden on developed countries and on polluting industries, it does not provide any compensation mechanism to non-industrialised countries and to people who have not benefited from the standards of living achieved while causing climate change.

As long as existing levels of economic development and existing pollution patterns constitute the basis for regulation, climate change law will largely reflect the priorities of the economically and politically more powerful states. An equitable and effective climate change regime needs to be based on a different paradigm that takes into account a broader variety of factors. The starting point is the common benefit that a healthy global environment represents for the whole of humankind and for life on Earth in general. Basic principles of environmental law, such as precaution and equity, are thus at the centre of efforts to define entitlements. Today, environmental protection is conceived by all states as encompassing human rights, social and economic aspects. This implies that it is not only the realisation of the right to a clean environment recognised in nearly 120 countries that is at stake but also the realisation of all human rights.

41 In the case of water, see, for example, for California, *National Audubon Society v. Department of Water and Power of the City of Los Angeles*, Supreme Court of California, 17 February 1983, 658 P.2d 709; and for South Africa, Section 3, National Water Act (1998).

42 *M. C. Mehta v. Kamal Nath*, 1997 1 SCC 388. For a similar example in the United States, see Article 1(27), of the Pennsylvania Constitution.

43 *M. C. Mehta v. Kamal Nath*. See also Shelton, Chapter 3, above.

44 Compare D. Takacs, 'The Public Trust Doctrine, Environmental Human Rights, and the Future of Private Property', *New York University Environmental Law Journal*, 16 (2008), 711,733.

This broad framework leads to the development of a regime which does not give economic growth and economic development the kind of importance they have under the Climate Change Convention and Kyoto Protocol. It is human development, and not economic development, which should be the starting point for a climate change regime. Human development gives primacy to human rights and environmental considerations but does not *per se* deny the necessity of economic development. In fact, the link between economic development and the realisation of human rights, in particular socio-economic rights, is well established. This is important because it recasts economic development as a tool for the realisation of the human rights of the poor and marginalised. In this context, the success or failure of policies and laws is rated according to their impact on the poor.

In terms of climate change the first step would be to move away from a system that allocates polluting rights based on past or present emissions. Indeed, any such scheme rewards long-term polluters - developed countries - and provides incentives to the few countries among developing countries, such as some Southeast Asian countries, India and the PRC to increase their pollution levels as fast as they can so that their own emissions levels will be grandfathered the day they take on commitments under the Kyoto Protocol. This is unjustifiable in environmental terms and inequitable for the majority of developing countries and all least developed countries that will be made to suffer the consequences of their lower levels of economic development twice over.

The most widely proposed alternative to grandfathering allocations is one based on per capita entitlements.⁴⁵ The basis for an equitable climate change policy should indeed take into account that every single human being has a right to a certain quantity of emissions. These include subsistence emissions such as emissions related to the growing of food or the use of firewood to cook meals or purify water.⁴⁶ This also includes livelihood emissions, which relate to everyone's right to benefit from the fruits of economic and technological development, for instance, by having access to electricity. Thus, there should be a basic human entitlement to a certain level of emissions. This level needs to take into account the requirements of the global environment and may thus imply reduced emissions by the minority of the world's population that directly or indirectly emits much more than that which the global atmosphere can support.

This entitlement is to be conceived from two related but distinct perspectives. At the international level, it provides a new way to allocate emission rights, which is fairer to countries that have not benefited from the fruits of economic growth. At the national level, it provides a similar mechanism whereby the poor and marginalised that do not have access to the amenities that their wealthier counterparts benefit from obtain a right to benefit from existing resources. In other words, the developed world and the minority of wealthy citizens within each country each have a debt to the poorer segments of the community.

While the measure for entitlements should be on a per capita basis, this cannot be the only criterion. Two reasons, at least, call for a more selective approach. First, a per capita entitlement may have the negative impact of fostering population policies, which may not otherwise be in the interests of the concerned countries. Secondly, an equitable legal framework should also take into account that some countries have a low population density because their environment is already degraded to such an extent that population has failed to grow over time. Since these countries usually happen to be among the poorest as well, recognition of their situation must also be taken into account.

The entitlement proposed here must differ from a Kyoto Protocol entitlement in an additional respect. The debt that rich countries and rich people within each country have accumulated toward the poor cannot be redeemed by simply stabilising emissions or reducing them.⁴⁷ The entitlement scheme must be based on the premise that the only way in which emissions can be accessed from the poor who do not use their quota is by accepting a duty to invest an equivalent amount of money toward developing non-carbon development paths. If that is not undertaken, the entitlement system will simply end up being another market mechanism through which the poor will sell their entitlements but without any policy framework imposing the necessary changes for effectively mitigating climate change in the long term. Thus, any future CDM should fund only projects that provide zero carbon emissions so that the CDM itself becomes a vehicle for technology transformation and not just a cheap compliance mechanism that, at best, does nothing for the poor and, at worst, contributes to harming them further where already discredited development options are reintroduced in the guise of climate change friendly policies.

45 See, for example, International Institute for Sustainable Development, *Per Capita Emission Rights* (1998). Available at: www.iisd.org/digest/sep98/sep98.2.htm.

46 Compare Henry Shue, 'Subsistence Emissions and Luxury Emissions', *Law and Policy*, 15 (1993), 39.

47 Compare Pia Halme, 'Carbon Debt and the (In)Significance of History', *Trames*, 11:4 (2007), 346.

The new entitlement framework is thus conceived as a mechanism through which the poor and vulnerable can demand new technologies or emissions convergence. In other words, this entitlement framework imposes on the rich parts of the world (rich countries and rich segments of the population) to either reduce their own emissions or invest in ways and means so that the poor do not follow the rest of the world in increasing their own emissions as economic development eventually reaches them. In India, where the richest classes produce four and a half times more CO₂ than the poorest class and almost three times more than the all-India average, this convergence is also required.⁴⁸ A number of different initiatives could be taken. For instance, in a situation where, in India, only 31 per cent of rural households use electricity, there is untold potential for emissions increase if the poor are provided with the same kind of amenities from which the rich benefit.⁴⁹ The entitlement framework based on human rights indicates that the poor also have in principle a right to the lifestyle that the rich enjoy. As a result, the only way to ensure that poverty eradication does not harm the global environment more, while at the same time providing alternative economic development paths for the rich and poor alike, is for the rich to invest in new ways to deliver development benefits. For instance, electricity generation in India could easily be focused on local solutions, in particular solar energy. Similarly, technological research should focus on new forms of public transport rather than on private vehicles with a lower negative climate change impact. Simply improving or changing the fuel on which private vehicles run may have a positive contribution on the global environment. However, as witnessed in the case of Delhi and its shift to compressed natural gas (CNG) on a large scale, this neither solves the environmental pollution caused by vehicles *per se* nor addresses the huge social and other problems caused by increasing reliance on private modes of transportation.⁵⁰

IV. CONCLUSION

Climate change must be addressed in earnest urgently. This requires measures that go beyond the existing Kyoto Protocol. It is critical to ensure that climate change is conceived in a broader manner that goes beyond the environmental and economic dimensions that have been central to the existing regime. Giving a central place to human vulnerability and incorporating the human rights language in climate change law is crucial. This must be achieved alongside a broader rethinking of the place of differential treatment in the climate change regime to ensure that it better reflects countries' and people's vulnerabilities in the future.

48 Greenpeace, *Hiding Behind the Poor* (A Report by Greenpeace on Climate Justice, Greenpeace India, 2007).

49 'What Equals Effective', *Down to Earth*, 16:14 (2007), 62.

50 See, for example, Naresh Kumar and Andrew D. Foster, 'Have CNG Regulations in Delhi Done Their Job?', *Economic and Political Weekly*, 42:51 (2007), 48.

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