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Equity and Flexibility Mechanisms in the Climate Change Regime:

Conceptual and Practical Issues

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I. Introduction

Climate change has become one of the prominent international environmental problems. One of the defining traits of the climate change issue internationally relates to the different contributions of different groups of countries to anthropogenic emissions of greenhouse gases (GHGs) and the different capacity to respond to the challenge posed through mitigating activities. Developed countries have thus contributed about two-thirds of cumulative carbon emissions between 1800 and 1988,[1] while the share emitted by developing countries is expected rise significantly over the next few decades.

The Framework Convention on Climate Change, which has been ratified by more than 170 States, seeks to address the problem of global warming at the international level. While it does not mandate specific emission reduction targets, the Kyoto Protocol adopted in December 1997 sets out quantified emission limitation and reduction commitments for OECD countries and countries undergoing the process of economic transition to a market economy (Annex B Parties). Annex B Parties commit themselves to reduce their overall GHG emissions by at least 5% below 1990 levels between 2008 and 2012.[2] Developing countries do not take on emission limitation or reduction commitments but have general reporting obligations.[3]

To ensure the effective realisation of the Convention's objective to stabilise greenhouse gas (GHG) concentration in the atmosphere, different implementation strategies and mechanisms have been proposed. These include, for instance, the setting up of a financial mechanism to cover part of the costs that developing countries incur in implementing the Convention. Other implementation mechanisms, known as "flexibility mechanisms" have also been devised to foster the realisation of the goals of the Convention. While the concept of "joint implementation" has already been experimented with, it is in the context of the climate change regime that significant developments are occurring.

Flexibility mechanisms are in the process of being defined and strengthened in preparation for the coming into force of the Kyoto Protocol. A number of issues remains to be solved both at the conceptual and practical levels. This paper focuses on the integration of flexibility mechanisms in the overall structure of the climate change regime. More specifically, it examines ways in which flexibility mechanisms can both contribute to climate change mitigation and to sustainable development, taking into account the common but differentiated responsibilities of State parties. It argues that strict guidelines must be laid down to ensure that flexibility mechanisms foster environmental and socio-economic goals.

II. Equity in the Climate Change Regime

A. Relevant Sources of Equity in the Climate Change Context

Equity, fairness or solidarity constitute fundamental moral principles which inform the basic structure of most human societies. The reliance on these notions reflects a search for more "equitable", "just" or "fair" relations among individuals at the domestic level and states at the international level. Indeed, most theories of justice pursue the achievement of some form of equality as their ultimate goal. However, equality is an elusive concept since different versions of equality yield extremely different substantive outcomes. One can broadly distinguish between procedural and substantive equality. In procedural equality, rules seek to give every member of the community equal opportunities and are usually deemed to be just if they apply to all without discrimination and no attempt is made to correct, for instance existing economic or other inequalities. Substantive equality, on the other hand, acknowledges that members of a given community are never perfectly equal. It therefore acknowledges that relevant dissimilarities between subjects of the law warrant special attention or special treatment.

Equity has been integrated in legal systems in different ways. First, it may constitute the overarching principle upon which a legal system is premissed. Second, it may be integrated in a number of ways in legal rules. Third, it may be applied at the level of the application of the rules by the judiciary. These three categories will be examined before turning to the specific application of equity in economics and in international environmental law.

1. Solidarity as a Basis of Inter-State Relations

Solidarity has historically been a keystone principle of inter-state relations. It has been viewed as an essential element of the existence of a community of states and a basic unalterable feature of international law. In this sense, solidarity is an unenforceable, yet compulsory basic moral standard of peaceful relations among states.[4] The principle of solidarity reflects not only the interdependence of states but also the responsibility of states to ensure that their economic, environmental or other policies do not harm other states and a prohibition to interfere with the interests of other states. In practice, states are thus expected to cooperate on issues of common concern.

Today, the existence of a principle of solidarity at the international level is widely accepted. However, divergent views exist concerning the nature of the principle. While some commentators argue that solidarity implies no extra legal obligations beyond conventional obligations, other opine that solidarity implies extra legal obligations on the part of developed countries to assist developing countries or that solidarity has become a principle permeating the entire legal system.[5]

2. Equity in Norms

At the international level, the principle of formal equality has been translated into the notion of sovereign legal equality of states, which constitutes a cornerstone of international law.[6] Historically, the neutrality of the law has been premissed on the legal equality of all states. One consequence is that treaties were traditionally deemed to be "just" if they provided for reciprocity of obligations among contracting states.

Reliance on strict equality constitutes a promising organisational principle in situations where all actors are effectively equal but does not provide mechanisms to remedy existing inequalities. In practice, states are neither equal in wealth nor power and are, for instance, often classified in two categories of developed and developing states on the basis of a comparison of per capita incomes. In a situation where states are unequal, the realisation of substantive equality can only be achieved by remedying existing inequalities.

Equity has been applied to remedy the problem of inequality among states by, for instance, providing different sets of obligations for different countries. More generally, this "differential treatment" refers to situations where there are either dissimilar obligations for different groups of states or specific measures designed to help states implementing obligations that are similar for all. It involves reverse discrimination to remedy existing inequalities. In some instances it may involve the strengthening in legal or institutional terms of the weakest states while in other cases, it may imply a transfer of resources.

Differential treatment involves the recognition that factors other than political independence should be taken into account in international law, whether in substantive norms or at the implementation stage. A primary element is the acknowledgement of gaps in per capita levels of economic development, though other elements such as more or less favourable geographic situations or historical antecedents are also relevant in some situations.

3. Judicial Equity in International Law

Judicial equity constitutes one particular application of equity in law. It seeks to correct or supplement the provisions of the law through the recourse to general principles of justice in cases where the application of legal norms does not yield outcomes which appear satisfactory. In other words, judicial equity derives from the idea that not all the circumstances in which a law may be applied can be foreseen at the time of its formulation.

Judicial equity represents the liberty offered to the judge to achieve material justice that a formal application of the norm at stake may not provide. It can serve to fill gaps in the law, to provide a basis for a more just interpretation, to provide a moral basis for making an exception to the normal application of a rule of international law or to provide the basis for deciding a case in a way that disregards existing law.[7]

Reliance on the principles of equity has been particularly important in the various cases concerning the delimitation of continental shelves that have been submitted to the International Court of Justice. The Court has thus acknowledged that "[e]quity as a legal concept is a direct emanation of the idea of justice" and that it is bound to apply it as part of the process of administering justice.[8] It has even pointed out that it is more concerned with striking an equitable solution than with equitable principles as such because it considers the result to be of overwhelming importance. It has, for instance, been willing to consider geographical factors as relevant indices in the application of the rule of law at stake. Though judicial equity mainly applies at the level of the application of the rules, its importance should not be under-played at the policy making level. Indeed, principles developed by the courts may well be taken into account or relied upon in subsequent legislative developments.

4. Equity and Efficiency

Efficiency has been proposed as an alternative avenue to foster justice. In this case, law is meant to be applied to produce the most wealth-maximising consequences without taking into account considerations about the parties and their relative situations.[9] Law and economics proponents thus submit that the greater social good can be enhanced through wealth-maximising resolutions.[10] While efficiency is not akin to equity, its importance in the climate change discussions must be acknowledged. Indeed, flexibility mechanisms have been specifically proposed at first to maximise the benefits of each dollar spent on climate change mitigation.[11]

5. The Principle of Common but Differentiated Responsibility

Equity has found specific applications in international environmental law, especially with the development of instruments dealing with global problems. One of the clearest expression of equity in international environmental law is the principle of common but differentiated responsibility (CBDR principle). It constitutes, for instance, one of the basic principles of the Climate Change Convention, Article 3 of which reads as follows:

> *The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of 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.*

In substance, it posits that states should be held accountable in different measure according to their respective historical and current contributions to the creation of global environmental problems, while recognising that all countries must participate in solving global problems.[12] The importance of this principle is well exemplified in the case of climate change where the contribution of each country cannot be dissociated from its pattern of economic development over time. Since industrialisation has not proceeded at a similar pace in all parts of the world, some countries have contributed a higher overall share of GHG while others may increasingly contribute in the future. In the Convention, the CBDR principle is, for instance, concretised through developed countries' pledges of financing the full incremental costs of measures to be taken by developing countries to alleviate the greenhouse effect on the basis of their higher past and present contribution to the problem.[13]

While the CBDR principle emphasises the different responsibilities and capabilities of states, it also seeks to bring all states together to cooperate in solving international environmental problems. Another dimension of the CBDR principle is thus its emphasis on partnership to avoid further environmental harm. In other words, it strives to find a solution to the problem of finding who has the resources to pay for climate change mitigation and who has the responsibility to do so. It is also noteworthy that the partnership implied by the CBDR principle does not stop at the inter-state level but encompasses all relevant actors.

The CBDR principle is not fundamentally different from the polluter pays principle which has constituted one of the basic principles of international environmental law since the early 1970s. In essence, it seeks to bring a new dimension to the latter principle by emphasising past contribution and present and future capacity to solve a given problem. The link between the CBDR principle and the polluter pays principle was highlighted in the Brazilian proposal for a Fund in the negotiations for the Kyoto Protocol. According to this proposed mechanism, countries which had taken on commitments and were in breach of their obligations would have had to pay a "fine" to an international fund, which in effect would have constituted a penalty for emitting GHG in excess of their allotted share.

The CBDR principle is extremely significant in the context of equity. Its central contribution is to address some important issues relating to the respective contributions and respective capacities of countries to respond to a given international environmental problem and to highlight the necessity to adopt differentiated commitments. The CBDR principle in the context of the Climate Change Convention cannot be dissociated from the broader context in which the principle has come to develop. It constitutes one mechanism to address climate change "for the benefit of present and future generations of humankind" and is thus intrinsically linked to both sustainability and human needs. It cannot be seen as a purely environmental principle devoid of socio-economic context. Indeed, equity in international environmental law cannot be dissociated from sustainable development which constitutes the main guiding principle for international environmental policies. The realisation of environmental quality cannot be sought in isolation from the socio-economic elements which constitute the backbone of equity in general international law. Equity and its environmental offshoot, the CBDR principle, imply therefore that environment and development goals be pursued at the same time.

B. Beneficiaries of Equity at the International Level

1. States

States have traditionally been the main actors at the international level and still enjoy a position of supremacy over all other actors.[14] International law reflects this dominant position by assigning rights and responsibilities at the international level mainly to states. In other words, equity constitutes one of the basic principles of inter-state relations. It is thus clear that the issue of equity at the international level should be first examined from their point of view.

The current international legal system is based on the premiss that all states are equal and that they should consequently be treated as being juridically equal. The actual inequalities in size, wealth and political or military power have led to calls for some measure of differentiation among states which would take into account some of these factors. The emphasis on economic development in the decades following the Second World War led to the focus on differences in patterns of economic development. This resulted in the now common categorisation of developed and developing countries which is fundamentally a measure of per capita income.

The distinction between developed and developing countries is meaningful insofar as it highlights the existence of widespread inequalities among the states constituting the international community. This constituted the conceptual basis for the call for a New International Economic Order (NIEO) in the 1970s. Through the NIEO, developing countries sought to denunciate injustice in economic relations among developed and developing countries.[15] Their claims focused on the protection of their economic interests, positive discrimination and non-reciprocity. The main points at issue were international trade, international monetary issues and the financing of development through aid, loans and foreign direct investment. The NIEO was thus marked by unilateral calls of developing countries for changes in the international economic and legal system.

The limits of a focus on two categories of states only are becoming increasingly apparent. While developed countries constitute a rather homogeneous group, developing countries can most easily be defined as being non-developed countries. Other common characteristics to all states are less and less easy to find. Thus, the

huge gap in economic development terms between least developed countries and the most successful East Asian countries makes any comparison very difficult. Similarly, the kinds of problems facing India or China and tiny Pacific island microstates can hardly be put under the same roof. Partial responses to these concerns have been drawn, for instance, by separating least developed from developing countries or by dissociating developed countries from countries undergoing the process of transition to a market economy. Further, in the environmental context, new elements, such as special vulnerability to the effects of climate change, are now taken into account with a view to focusing more effectively on specific problems faced by each state.

2. Other Actors

Progressively, the international community has come to accept and legally recognise the role and relevance of other actors, such as international organisations, regions, private enterprises, NGOs or individuals. While disaggregating such vague categories as developed and developing countries can be extremely useful with a view to focusing on the particular problems faced by each state, this remains entirely state-centred. Compelling reasons call for a broader focus. Firstly, international law's ultimate function is to benefit individuals and not states. As long as equity at the international level only applies to states, there can be no way to ensure that the benefits of equity measures reach individuals on the ground. Secondly, states do not necessarily constitute the most appropriate unit to ensure the realisation of equity. This may be due, for instance, to undemocratic governance structures or in the case of large states, to the fact that the state is unable to recognise, protect and foster local needs.

Regions

The devolution of power to regions constitutes at the domestic level a response to the inability of central states to deliver benefits equitably to all their citizens. While this is becoming increasingly common at the domestic level, international law has been rather averse to acknowledging the relevance of sub-state bodies to deliver the benefits of rules adopted at the international level. The European Union, with its highly developed regional policy constitutes one significant exception. The basic aim of the regional policy is to coordinate member-state aid to underdeveloped or depressed regions with a view to correcting regional imbalances resulting, for instance from agricultural predominance, industrial mutations or structural underemployment.[16] The regional policy even seeks to strengthen economic and social cohesion with the aim of reducing disparities between the various regions and the Treaty on European Union specifically states that the "Community shall aim at reducing disparities between the levels of development of the various regions and the backwardness of the least favoured regions, including rural areas". In international environmental law, only scanty recognition of the need to target intra-state regions can be found. One modest beginning is given by the Climate Change Convention which recognises that specific regions of developing countries should be targeted because of their special environmental features.

Individuals and Groups

Fundamentally, all legal systems are premissed on the need for legal rules to benefit individuals who are their ultimate beneficiaries. In international law, it has traditionally been assumed that states were benevolent and would pass on benefits in a fair and equitable manner to their citizens. In practice, it has become increasingly clear that in most countries of the world, this is not happening.

International law has already gone some way towards giving individuals and groups rights at the international level. This is most clearly represented by the development of human rights. In the field of the environment, specific individual or collective environmental rights have not crystallised yet, although developments at the regional level point the way towards possible avenues to be followed.[17]

C. Equity and Climate Change

Equity has become one of the cardinal principles in the development of the climate change regime. The reason why this should be so can be partly explained by the nature of the problem at stake. The Climate Change Convention is not as such a purely environmental instrument. It not only focuses on the human contribution to global warming but also deals with a number of issues which affect directly humankind's well-being. The Convention is thus about balancing environmental interests and human needs. This explains that considerations of equity should take such a central position.

1. Equity Issues

Equity has found its expression in different ways in the Convention. At a general level, the first principle of the Convention is that equity informs all actions taken to mitigate climate change. More specifically, different groups of countries have agreed to different commitments and obligations. Further, equity is also present at the procedural as exemplified by the current governance system of the GEF which is a direct emanation of Article 11 of the Convention.

The general principle of equity in the Convention can be applied to a number of elements and situations of relevance to the achievement of the ultimate objective of the Convention. First, at the level of the apportionment of costs, equity is relevant in determining the allocation of the costs of adaptation, the allocation of future emission rights, the allocation of the costs of coping with the social consequences of climate change, the background allocation of wealth which would allow the international bargaining to be fair and the fair allocation of GHG emissions in the long term.[18] In practice, it is, for instance, necessary to take into account that some countries are threatened with physical destruction.

Second, the impacts of mitigation activities have significant equity implications. Reducing GHG emitting activities in one given sector has different impacts on different categories of people. Thus, subsistence activities which result in GHG emissions are likely to be linked to the fulfilment of their basic needs such as energy for cooking, heating or emissions from agricultural activities. On the other hand, emissions from better-off people tend to be dominated by activities such as driving cars, central heating and energy embodied in a variety of manufactured good and the use of such goods. The welfare impacts of cutting back GHG emissions may thus differ greatly according to the level of personal wealth.

Third, policies to address climate change must also take into account that environment and development objectives cannot be separated, as recognised by the Convention. For instance, mitigation activities should not aggravate existing disparities between different countries and regions of the world and should further aim at redressing existing inequalities. This is partly due to the fact that climatic change is expected to worsen inequalities among countries and people due to the uneven distribution of the costs of damages due to climate change as well as of the required adaptation and mitigation efforts. In other words, the Convention acknowledges that climate change mitigation activities should at the same time foster socio-economic development.

Fourth, while climate change tends to focus people's attention on the global environment, local and international costs and benefits should not be looked at in isolation. In a world in which all nations bore an equal share of the costs of climate change mitigation, a focus on aggregate equity would be appropriate. In the real world, however, it is important to examine how the burden of adjustment is shared among all countries so as to avoid over-burdening countries which are already disadvantaged, either in environmental or developmental terms.

Fifth, equity in climate change cannot be dissociated from past and current differences among states constituting the international community. Differences in the historical path of economic development, in energy consumption policies, in natural resource endowments or in current levels of development are all relevant factors in assessing how responsibility for climate mitigation action should be shared among countries. Since all these factors should be taken into account, equity may require that some countries make net contributions to the mitigation effort. In other words, if climate mitigation implies a redistribution of resources in a context of limited available resources, some countries may have to accept a reduction in their overall economic welfare.

All these equity elements which relate specifically to climate change must be analysed in the broader context outlined above. The principle of common but differentiated responsibility implies, for instance, that both the respective contributions and respective capacities to address the problems created are to be taken into account in the building of the regime.

2. *Equity and the Allocation of Climate Change Mitigation Rights and Costs*

The application of equity has drawn significant attention concerning the costs associated with climate change mitigation. This constitutes one of the concretisations of the CBDR principle in practice. Allocation problems arise, for instance, in the context of the distribution of abatement costs and the distribution of future emission rights.

Different principles of allocation have been proposed. These principles have in common that they all seek to find their justification in the broad notion of equity. Allocation can, for instance, be made on the basis of cumulative historical emissions (natural debt). This is close to the well-known polluter pays principle which posits that clean-up costs should be borne by the polluters themselves. Concerning abatement costs, allocation can also be made on the basis of the ability to pay of each country or polluter. This reflects one of the central tenets of the CBDR principle. Both proposals reflect the Aristotelian notion that people should receive in proportion to what they put in and pay in proportion to their contribution to the damage caused.

More generally, allocation schemes have striven to find solutions which respect the principle of equality in one form or another. Some propose that emissions rights should be divided equally among nations, some that emissions should be allocated according to current emissions (grandfathering) and some other that rights and duties should be divided equally among all human beings. These different kinds of "egalitarianism" tend to hide underlying political and economic agendas rather than reflect proper ethical considerations. In reality, it is difficult to find an allocation scheme which takes into account the CBDR principle and does not threaten the aim of mitigating climate change. Indeed, while it is impossible to ask developing countries to stop their economic development and freeze their per capita emissions at current levels, it is also politically very difficult to seek significant reductions in per capita emissions of developed countries. Further, this debate eventually stumbles on the specific problems of some large and poor countries like India and China where per capita emissions are extremely low but overall emissions quite significant, partly because of the heavy reliance on coal. One solution may be to reject this manichean debate on per capita emissions. Rather, further attention should be devoted, for instance, to increasing the energy efficiency of sectors where significant gains can be made, to reducing fossil-fuel dependency or to promote non-GHG emitting renewable energies. This should be done in a context which recognises the absolute priority of so-called basic needs related emissions, or emissions which directly contribute to the satisfaction of basic needs. Policies which seek to tackle climate change cheaply by reducing local people's use of firewood, for instance, through the setting up of reserves cannot be accepted in this context.

3. *Instruments of Equity*

In the climate change regime, equity is concretised through different instruments and mechanisms. A financial mechanism to cover the incremental costs of climate change mitigation measures undertaken by developing countries constitutes the first instrument to ensure an effective implementation of the Convention's objectives. The GEF which fulfils at present this function was established specifically with a view to make the equity provisions adopted in the Convention a reality on the ground.

At a more practical level, technology transfer constitutes one of the primary instruments through which equity is actualised. The Convention acknowledges repeatedly the importance of technology transfer to allow developing countries to participate effectively in the realisation of the ultimate objective of the Convention.

Finally, the climate change regime is also witnessing the development of a new kind of so-called flexibility mechanisms. These will be examined in more details in the following sections.

III. Equity and Flexibility mechanisms

A. Flexibility Mechanisms in International Law Instruments

1. *Flexibility Mechanisms in General*

The concept of "flexibility mechanisms" is novel and requires explanation. It represents a conscious attempt to liberate international law from some of its structural constraints, both to reflect the reality of the current world order and to facilitate the implementation of inter-state agreements.

In international environmental agreements, flexibility mechanisms have been specifically introduced to enhance the cost-effectiveness of measures to address international environmental problems and to attract new sources of funding. Nations with high costs for meeting environmental obligations can thus invest funds in other nations that avail low cost opportunities to fulfil the same objectives. This "spatial flexibility" has the advantage of bringing about global environmental benefits at the lowest possible cost by exploiting comparative advantage opportunities.[19] Flexibility has usually been premissed on the idea that it should benefit both parties in addition to fostering international environmental protection. It is noteworthy that the emphasis of Article 12 of the Kyoto Protocol on the Clean Development Mechanism's (CDM) contribution to sustainable development in developing countries is much stronger than in the GEF instrument which focuses principally on global environmental benefits.

More specifically, flexibility relates to the fact that the private sector is for the first time fully involved in the implementation of an agreement signed exclusively among states. International law is thus opening itself to non-state actors in a much more active way than previously. The involvement of the private sector must further be seen in a context of declining Official development assistance (ODA) and the need to find alternatives sources of finance for the realisation of sustainable development in general. Flexibility mechanisms provide an alternative source of funding which does not depend on ODA.

Finally, flexibility is in large part driven by considerations of equity. Flexibility constitutes one practical application of the idea that international environmental problems must be solved through partnerships among all countries and all actors. Thus, equity is visible in the case of the creation of a "bubble" which allows some relatively less economically developed countries to increase their emissions while other reduce theirs more drastically to achieve an internationally agreed commitment for the group of countries in question. Similarly, in the case of the CDM, developing countries which do not take on commitments under the Protocol contribute through the CDM to the realisation of the ultimate objective of the Convention. Further, the CDM has the potential to participate in the practical implementation of the principle of common but differentiated responsibilities. Indeed, it may at the same time benefit the global environment by lowering the cost of global environmental protection, foster technology transfer to developing countries and contribute to sustainability in these countries.

2. *Flexibility mechanisms in the Climate Change Regime*

Flexibility in climate change regime has slowly developed from being mentioned in passing in the 1992 text of the Convention to being one of the most debated implementation mechanisms. Broadly, flexibility constitutes one of the mechanisms for reducing overall greenhouse gas emissions. It involves the transfer of an activity of policy across a boundary or jurisdiction but must refer to the same pollutant.[20] Different kinds of flexibility mechanisms have and are evolving.

Activities Implemented Jointly

Activities Implemented Jointly or AIJ constitutes historically the first kind of flexibility instrument developed on the basis of Article 4.2(a) of the Convention which provides that Annex I Parties, in contributing to the achievement of the Convention's objectives may implement measures and policies jointly with other parties. It was formally launched at the first Conference of the Parties for a "pilot phase".[21] AIJ conjoins countries with commitments and countries without commitments, allowing the former to implement projects in the latter to take advantage of cost differentials. The AIJ Decision specifically acknowledged that AIJ should be supplemental and treated as a subsidiary means of achieving the objectives of the Convention. Moreover, AIJ is expected to contribute long-term environmental benefits that would not have occurred without these activities. Finally, AIJ financing should be additional to current flows of ODA and the financial obligations of developed countries under the Climate Change Convention. As determined by the first Conference of the Parties, no credits accrue under an AIJ project.

Joint Implementation

Joint Implementation constituted the generic term for flexibility before the adoption of the Kyoto Protocol. JI involves the transfer of entitlements between States and has been experimented with in other instances. Under the Montreal Protocol, for instance, Parties with different levels of consumption and production may transfer to one another part of their consumption and production entitlements within limits defined in the Protocol. Similarly, the 1994 Sulphur Protocol to the Transboundary Air Pollution Convention, provides that states can meet their obligations jointly. Rules for the implementation of JI under the Second Sulphur Protocol allow States to reallocate national pollution limits agreed at the time of signing the agreement while not exceeding their aggregate deposition allowances.

Under the Kyoto Protocol, JI refers specifically to cooperative projects between two Parties with commitments. Credits do accrue from such projects. Several elements are reminiscent of AIJ, such as the necessity for participation in JI to be voluntary, the necessity for emission reduction or sink enhancement to be additional to any that would otherwise occur or the fact that JI must be supplemental to domestic actions for the purposes of meeting commitments.

Bubbles

A third kind of flexibility mechanism is the so-called "bubbles" whereby a group of countries is allowed to aggregate their commitments and then decide within the group on the allocation of the burden. Under the Montreal Protocol on Substances that Deplete the Ozone Layer, Parties which are also members of regional economic integration organisations may aggregate their consumption limits and jointly fulfil the overall commitment. Under the Kyoto Protocol, the EU has, for instance, made use of a similar possibility to re-allocate the generic EU commitment among member states to allow some less economically advanced countries to increase their emissions.

The Clean Development Mechanism

The Clean Development Mechanism (CDM) defined by Article 12 of the Protocol is conceptually very close to AIJ. It seeks to facilitate joint emission reduction projects between Annex I Parties and developing countries. Further, it also emphasises the fact that projects must assist developing countries in realising sustainable development. The most significant departure from JI as currently implemented is that the new regime will involve crediting of certified emission reductions accruing from JI projects to Annex I Parties.

Other important elements include, for instance, the fact that banking credits will be allowed. Also, while AIJ implies exclusively projects approved directly by the investor and host, one of the proposals for the development of the CDM posits that a multilateral framework could be put in place to centralise projects and distribute them in a more transparent and equitable fashion than is currently the case. In this case, credits would accrue to the CDM which would distribute them to investors according to their shares. This has the advantage of spreading risk among investors and of avoiding the concentration of projects in only a few countries. Further, it would avoid direct trading between countries which may result in pressures on the host and would thus ensure that projects are really compatible with host country priorities.[22]

Participation in the CDM should in principle have various advantages for actors involved in projects. These include global climate change mitigation through emission reduction or sequestration, credits for investors and various other elements contributing to sustainable development in host countries, such as technology and capital transfers.

Emissions Trading

Emissions trading constitutes another flexibility mechanism whereby a fully-fledged market mechanism is established. It is modelled after tradable emission permits, credits and offsets schemes that have been put in place in the United States to facilitate compliance with the Clean Air Act.[23] Under the Kyoto Protocol, emissions trading can only take place among countries with commitments and must be supplemental to domestic actions.

While emissions trading is often seen as the most developed form of joint implementation, in reality, it is substantially different from the other flexibility mechanisms examined here. First, it is by definition a multilateral mechanism. Second, while JI or the CDM involve the carrying out of actual projects and investor countries earn emission reduction credits, under emissions trading, countries exchange GHG allowances. Third, in emissions trading, permits can be sold to third parties while a JI transaction is typically limited to two partners.

B. Relevant Equity Issues for Flexibility Mechanisms

As currently conceived and, in the case of AIJ, implemented, flexibility mechanisms are already subjected to a number of equity-related elements. These will be briefly outlined in this section while section III delves into more details on the practical consequences of equity for these mechanisms.

It has already been noted that flexibility mechanisms are meant to foster additional emission limitation or sequestration, to provide developmental benefits to recipients and to maximise the contribution of investors for the global environment in terms of cost efficiency.

The general equity framework which guides activities under the Convention and Protocol has other implications. First, even if the rationale for the development of flexibility mechanisms is cost effectiveness, their implementation cannot be dissociated from the guiding principles of the Convention. More generally, flexibility mechanisms, even if they are implemented through private actors, must comply with the general principles of international law. Though the hierarchy of different fields of international law is a contested issue, it is usually conceded that basic human rights or international solidarity constitute fundamental bases of the international system which apply to all actors and all activities.

One of the most intricate issues facing the development of "fair" flexible mechanisms is the inclusion of the private sector in an inter-state agreement. Though the private sector has always been involved at different levels in the implementation of international agreements, this has usually been done until now under the control of states. With these new mechanisms, private enterprises are taking on a much more prominent role and benefiting much more directly from the international regime in place. It becomes extremely important to devise a framework to ensure accountability and liability of these actors since international law is not well equipped at the moment for direct enforcement against private actors. This is all the more important in the case of flexibility mechanisms where the involvement of the private sector is driven mainly by considerations of cost-effectiveness while the other objectives outlined in the international instruments, such as the promotion of sustainable development in the case of the CDM, may not be taken into account. That this may be the case is, for instance, illustrated by adverse developments in the attempts to develop partnerships among private enterprises and with public institutions concerning the development of a vaccine against malaria.[24]

Addressing climate change is in many ways a forward-looking strategy whose costs must be paid now for potential benefits in the future. Since environmental issues cannot be dissociated from development concerns, it is clear that strategies to mitigate climate change are bound to impact on development strategies of developing countries which may be concerned by the prospect of diverting resources to tackle problems whose current relevance they cannot see in their socio-economic context in which they act. This problem can, however, be

solved in some cases since climate change mitigation and development priorities can be reconciled. This is, for instance, the case with air pollution in cities which is both a health hazard and a climatic concern.

Finally, a major concern is the impact of flexibility mechanisms on sovereignty. At a general level, the concern arises because countries go to other countries to undertake activities which help them fulfilling their own obligations. More specifically in the case of climate change, concerns exist that CDM projects may exhaust low cost mitigation opportunities which will not be available to host countries in case they take on commitments in the future. Second, in the case of land intensive activities such as forestry, there are clear trade-offs between maintaining the land under forest cover and food security or more generally sustainable development in many countries where arable land is in short supply. Third, the CDM raises the issue of credit storing for host countries. If emission reduction or sink enhancement achieved in host countries are credited to the investors, it may be thought that subsequent emissions which arise as a result of the activities should also be allocated to the investor.

C. Equity Issues in the Clean Development Mechanism

The development of the CDM is fraught with uncertainty because the Protocol leaves many elements unresolved. However, on the basis of the Protocol's provisions and the experience accumulated in AIJ, a number of elements can be noted.

First, the CDM is a direct emanation of the principle of common but differentiated responsibility. It constitutes a form of partnership among developed and developing countries to solve a global problem on the basis of the different commitments that countries assume under the Protocol. This is further illustrated by the fact that part of the proceeds derived from CDM projects are to be used to assist developing countries which are particularly vulnerable to the adverse effects of climate change in carrying out climate change mitigation activities.

Second, the CDM is premissed on the need to foster at the same time sustainable development in host countries and cheap climate change mitigation activities for the investors. One of the easiest ways in which the development component of the activities can be implemented is through effective technology transfer. It may even be said that the CDM should be one of the main avenues through which developed countries discharge of their obligation under the Convention to foster technology transfer.

D. Equity Issues in Emissions Trading

In emissions trading, considerations of equity arise mainly at the level of the first allocation of emissions allowances. The assumption is that the initial allocation method has no material bearing on the efficiency of the system to achieve a given environmental target at a minimum cost if trading in the market is competitive and transaction costs are low. The initial allocation can thus be used to address equity concerns without affecting the cost-effectiveness of the system.

Different allocation methods have been proposed. They all claim a basis on a given definition of equity. Emissions can firstly be allocated on the basis of current emission levels. The consequences of this allocation - grandfathering - would be the promotion of stability in the international economic order by allowing current polluters to carry on and by limiting low polluters' rights to expand their polluting industries. This allocation has the perceived advantage of limiting the disruption caused to the global economy.

Secondly, allotment systems can focus on the fact that the environment is a "global good" and on the need to take action to mitigate climate change. A global burden which has to be shared according to specific criteria is thus recognised. The various proposals are based on different rationales. Some focus on egalitarian principles and propose an equal per-capita entitlement, some focus on economic development factors and intimate that the allocation should be done according to each nation's ability to pay while other favour an allocation based on the emission intensity of each unit of GDP.[25] They all seek to establish a basis which recognises the different contributions to the creation of the problem, the different capacities to respond to the problem and the link

between economic development and environmental degradation in the form of carbon emissions.

Given that none of these proposals attracts widespread support, some attempts have been made to put forward allocation systems based on several criteria. Thus, to stem the tide of criticism against per capita entitlements which is widely seen as creating an incentive for increased population levels, it has been proposed to allocate emissions according to both population and gross national product.

IV. Towards More Equitable Flexibility Mechanisms

A. In General

Flexibility mechanisms and the involvement of the private sector in the implementation of the Convention constitute positive steps to foster more effective climate change mitigation activities. However, economic instruments in international environmental law should conform with the principles of the Convention and other relevant general principles of international law. Thus, "efficiency" should not come at the expense of equity or sustainability. This is, for instance, illustrated by the fact that the CDM is first a developmental instrument which should foster local and national benefits not directly related to climate change mitigation.

1. Flexibility Mechanisms for Climate Change Mitigation: Learning from the AIJ Experience

Following the adoption of the Kyoto Protocol, AIJ will most probably be abandoned at the end of the pilot phase and replaced by JI and the CDM. AIJ does have relevance in the development of other flexibility mechanisms for several reasons. First, it constitutes the only tangible evidence which can be used to measure the overall relevance and usefulness of flexibility mechanisms to mitigate climate change. Second, all climate change flexibility mechanisms must be implemented in accordance with the provisions of the Convention. Their similarity is reinforced by the fact that several of the principles outlined in the 1995 Conference of the Parties Decision for AIJ have been retained in the drafting of the Protocol. However, it is noteworthy that the Protocol is in some regards more conservative than the AIJ Decision. Thus, Article 12.2 states, for instance, that the CDM should assist host parties in achieving sustainable development, a much less precise formulation than the AIJ Decision which sought to see projects "compatible with and supportive of national environment and development priorities and strategies". Article 12 also omits a key provision of the AIJ Decision which states that "the financing of activities implemented jointly shall be additional to the financial obligations of Parties included in Annex II to the Convention within the framework of the financial mechanism as well as to current official development assistance (ODA) flows". Other elements to be noted include the fact that while the AIJ Decision called for AIJ to foster "long-term environmental benefits", Article 12 speaks only of "benefits" and Articles 6 and 17 omit any mention of this. These constitute important omissions which may ruin the prospects for flexibility mechanisms to contribute to sustainable development. Finally, while the key requirements of supplementarity and subsidiarity of flexibility mechanisms in meeting parties' commitments present in the AIJ Decision are mentioned in Articles 6 and 17, the have been omitted in Article 12.

All these "omitted" elements constitute significant shortcomings of the Protocol. While the flexibility mechanisms of the Protocol may in their current forms contribute to the cost-effectiveness of measures to mitigate climate change, their contribution to national development priorities and strategies, long-term environmental benefits and the additionality of the financing are not assured at present. The AIJ framework should, as a first step, be used to reinforce the environment and socio-economic development sides of the new flexibility mechanisms. In the alternative, these mechanisms will be no more than a technical device used to reallocate the costs of implementation of any international agreement.

2. Strengthening Accountability Rules

Private Party Liability

One of the main challenges linked to the introduction of flexibility mechanisms is the involvement of the private sector in the implementation of an inter-state agreement. Until now, the private sector has usually not been directly involved in the development of international legal regimes or their implementation. This subdued role has been due both to the resistance of private sector actors for formal involvement in intergovernmental fora and to states' fear of loss of power.[26] Thus, the several codes of conduct designed to regulate multinational companies' international activities drafted in the 1980s were mainly developed without the direct participation of the companies.

International law is certainly capable of accommodating actors such as multinational companies. The ICJ resolved early on that the UN was a subject of international law capable of possessing international rights and duties which had the capacity to maintain its rights by bringing international claims. The Court made it clear its legal personality and its rights and duties did not have to be the same as those of a state. The necessity to broaden the number of the subjects of international law can be glimpsed from another statement of the Court in the same case where it argues that

> *the development of international law has been influenced by the requirements of international life, and the progressive increase in the collective activities of States has already given rise to instances of action upon the international plane by certain entities which are not States.*[27]

The rapid internationalisation of a number of areas since 1949 makes this conclusion even more relevant today. The significant role of multinational companies in the international economic system calls for a more formal role in intergovernmental fora.

While a proper role for the private sector remains to be found, the development of flexibility mechanisms constitute a significant novelty in international law. Indeed, the direct involvement of private parties in the implementation of the convention breaks new conceptual ground. The novelty relates to the fact that while the treaty is signed between states, they let other actors carry out part of the required implementing activities. With the flexibility mechanisms, the private sector benefits from new business opportunities created by an inter-state agreement. The incentives for their participation will normally take the form of credits which can be redeemed domestically.

At this stage, the inclusion of the private sector in the implementation of the flexibility mechanisms suffers from shortcomings which should be addressed before the Protocol enters into force. Indeed, while private firms gain access to new markets, there has been no emphasis on the definition of corresponding duties. Liability rules should, for instance, be strengthened. This would not only strengthen the international legal system but also parry claims that multinational companies benefit from their international non-status. The relevance of such issues in the case of flexibility mechanisms which involve the carrying out of projects in a host country is illustrated by a provision of the draft Code of Conduct on Transnational Corporations which stated that transnational corporations should "carry on their activities in conformity with the development policies, objectives and priorities set out by the Governments of the countries in which they operate and work seriously towards making a positive contribution to the achievement of such goals at the national...".[28]

3. *Climate Change and Other International Environmental Problems*

The principle of equity has other socio-economic implications which should influence the kind of projects that are implemented in the context of the flexibility mechanisms. The problem stems from the fact that the impacts of climate change are mainly remote in time. They are thus of no current relevance to the majority of the world's population faced with much more life threatening environmental issues. It is however possible to partly reconcile climate change mitigation with a focus on people's basic needs and sustainable development. This is, for instance, the case with local air pollution in cities. Reducing harmful emissions by promoting better public transportation and more energy efficient vehicles has the twin benefit of promoting better living conditions at the local level and mitigating climate change. This also illustrates that climate change cannot be tackled as a separate environmental problem. Despite the sectoralisation which prevails in international environmental law, flexibility mechanisms, and in particular the CDM which is specifically meant to foster sustainable development, should not be thought out on their own without considering other relevant issues.

B. In the Clean Development Mechanism

1. *The Clean Development Mechanism and Sustainable Development*

A number of specific elements arise in the context of the CDM. One of the main issues relates to the defining element of the CDM which is to first contribute to the sustainable development of host countries. While this requirement is clearly stated in Article 12 of the Protocol, it is also clear that similar considerations apply to all flexibility mechanisms. Indeed, all implementation mechanisms should fit within the ambit of the principles of the Convention, Article 2 of which states explicitly that the concept of sustainable development must be integrated into any action taken to implement its provisions. The Protocol further exhorts Annex I Parties, in fulfilling their obligations, to minimise social, environmental and economic impacts, particularly on developing countries.

As expounded in Agenda 21, the concept of sustainable development entails the fulfilment of the basic needs of the world's poor without compromising the capacity of the environment to provide similar benefits for future generations. This implies at the very least that CDM projects contribute not only to climate change mitigation but also to the process of socio-economic development in host countries.

For the CDM to effectively promote sustainable development a number of elements must be integrated. First, it is imperative to modify the overall climate change mitigation strategy which focuses on mitigating existing emissions. One of the major tasks of the climate policy is to focus also on avoiding future emissions in countries which have low current aggregate and per capita emissions but which will industrialise rapidly in the coming decades. This includes, for instance, a majority of Sub-Saharan African countries which have been completely bypassed in the AIJ pilot phase.

Second, while the AIJ Decision clearly states that resources devoted to joint implementation should be additional to current ODA flows, the Protocol has omitted all reference to this point. This constitutes a significant shortcoming since the CDM may, without additionality, be seen in host countries as a diversion of existing funding to which climate change conditionality is added.

Third, Article 12 surprisingly omits all mention of the need for action taken in the context of the CDM to be subsidiary and supplemental to domestic action. This constitutes a significant omission insofar as the CDM should in no way be used as a substitute to other types of measures.

Finally, to fulfil its mission, the CDM should foster effective technology transfers. While this does not derive directly from Article 12, it constitutes one the main instruments through which sustainable development is to be realised in the context of the climate change regime. The Convention indicates that technology transfer is one of the principal obligations of Annex I countries, so important that the non-fulfilment of this commitment

allows developing countries not to comply with their own commitments. Further, the Protocol insists that all parties must cooperate in the promotion of effective modalities for the development, application and diffusion of environmentally sound technologies and that they must take all practicable steps to promote, facilitate and finance their transfer, in particular to developing countries.

2. The North-South Dimension

The CDM is premissed, like the rest of the flexibility mechanisms on the lower marginal cost of climate change mitigation found in less industrialised parts of the world. The lower marginal costs of climate change mitigation in developing countries are, however, not a sufficient justification for the CDM in the present context. The CDM has to be seen in a longer-term context which will see the need for developing countries to substantially raise their standards of living. Even if this is achieved with the most energy efficient technologies in the world, both aggregate and per capita GHG emissions are likely to grow. From a global point of view, the rationale for the CDM as currently conceived is thus flawed as long as developing countries do not take on commitments. A more "rational" and "equitable" solution would be to leave the most cost-effective options to developing countries themselves and for international cooperation (implemented, for instance, under the guise of flexibility mechanisms) to focus on development activities which will ensure that future economic growth in developing countries is less climate change averse.

Similarly, the problem of "hot air" should be seen in a broader context. While it is now feared that developing countries will one day seek the same favourable conditions offered to Russia and Ukraine, the real issues are elsewhere. From the point of view of equity, it would appear logical to give the same treatment to all countries, once a favour has been given to some of them. However, the problem cannot be seen in the narrow framework of the Convention. From an environmental point of view, extending hot air to all developing countries would probably be catastrophic. A solution must thus be found in seeking increasingly effective free technology transfers to developing countries to allow them to raise their populations' standards of living without contributing too much to climate change.

3. A Multilateral Institutional Framework

The CDM has the potential to constitute a significant instrument for the furtherance of more sustainable development paths. However, on an international level, this will depend heavily on the institutional structure chosen to implement Article 12 of the Protocol. The two main alternatives are a bilateral or multilateral solution. In the former case, investor states would negotiate directly with hosts on a given project. This is therefore very similar to current AIJ and proposed JI between Annex I parties. Despite the apparent simplicity and equitable nature of a bilateral scheme, several elements militate for a multilateral arrangement, at least in the case of the CDM. In other words, the CDM can probably only fulfil the CBDR principle outlined above if it is conceived multilaterally.

First, the AIJ experience tends to show that a bilateral option offers no guarantee that projects will be either equitably shared among countries or that they will go in priority to countries whose environmental or development needs are greatest. Indeed, AIJ projects are heavily concentrated in a small number of countries and regions and have, for instance, completely bypassed the African region. A multilateral clearing-house distributing projects around the world according to the fundamental principles of the Convention could remedy this situation. A "redistribution" of projects would in no way impair the capacity of the CDM to mitigate climate change, it would only seek to benefit more countries and countries which have greater needs for development or technological assistance. Further, a multilateral CDM would have the advantage of putting all host countries on a more equal footing. It would in particular give smaller and poorer countries a better chance of hosting projects even though they may stand a good chance of being bypassed in a bilateral scheme for political or economic reasons. Finally, a multilateral institution would be in a position to foster a better sectoral distribution of projects than is currently the case. It would, for instance, be able to limit the number of projects devoted to climate change adaptation.

4. *Flexibility Mechanisms for Local People*

The principle of equity outlined above implies that countries must cooperate in solving international environmental problems. Given that environmental problems do not affect only states but also people, it is imperative that climate change mitigation policies and implementation mechanisms encompass a broader notion of partnership which includes all concerned actors. This is because all actors have an impact on climate change through their daily activities and may be directly affected by climate change mitigation activities.

It is therefore important to ensure that all climate change mitigation activities not only do not harm individuals but more generally benefit all constituencies, especially the weakest. This has implications at several levels. First, to ensure a just distribution of emissions rights around the world, it would, for instance, not be sufficient to grant countries allocations according to their populations. Indeed, if the rights are vested at the state level, it is probable that in many countries the benefits will accrue mainly to a small elite. Second, all implementation activities should aim at directly benefiting local people and groups. This requirement stems both from the elements just outlined and from the fact that international law is intrinsically meant to eventually benefit individuals, not states. More specifically, local people and groups should, for instance, be integrated in the design and implementation of any flexibility project. These requirements are exactly similar to any development project but need to be clearly integrated in the climate change context where development discourses and practices do not seem to be known by a number of concerned actors. Further, the involvement of the private sector which may not be conversant with these elements makes this even more important.

V. Conclusion

Flexibility in the implementation of international law instruments constitutes a new avenue to foster more effective and economically efficient implementation of international commitments. These new mechanisms are still being developed in the context of the Climate Change Convention. Flexibility mechanisms constitute novel instruments in international environmental law but cannot be conceived and developed in a vacuum. Like other implementation mechanisms, they must conform with the general principles of the instrument they seek to implement and general principles of international law. In the case of the Convention, one of the most significant guiding principles is that of equity. While there may be tensions between equity and efficiency, the two goals can be reconciled since there is no inherent contradiction between the two principles.

This article has shown that the demands of equity on flexiblity mechanisms are relatively important and that their current design already shows that efficiency does not completely dominate. Thus, Article 12 of the Protocol which defines the CDM strongly emphasises the need for CDM projects to foster the realisation of sustainable development in host countries. A number of issues must however be resolved for flexibility mechanisms to fit within the framework given by the Convention and other relevant equity principles. If the flexibility mechanisms are concretised according to these principles, they could become one of the most significant innovations in the realm of implementation mechanisms, fostering at the same time effective environmental harm mitigation action at the international level while contributing to economic and social development in countries which need it most.

Endnotes

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