

IPCC 2nd Regional Experts' Meeting on “Development, Equity and Sustainability”

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Climate Change Mitigation and Equity
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Introduction

The purpose of this paper is to refresh some ideas on equality, equity and credibility, to remember proposals with different equity approaches and to discuss the climate change mitigation burden and the developing countries' impossibility to implement QELROS in equitable ways. The final part of this paper is a suggestion for a distinct method to organize the international mitigation effort.

Equality and equity.

We should be talking and discussing about equality, but we talk and discuss about equity because we have agreed not to work on the basis of equality. It is quite obvious but sometimes we seem to forget it.

We know that all human beings are born equal, with the same rights and duties. However we clearly realize that in these global environmental matters neither human beings nor nations are equal and consequently we talk about equity instead of talking about equality.

It was different before; at least it was different in the words we used. Principle 1 of the Declaration on the Human Environment adopted at Stockholm in 1972, proclaims the equality of the human beings, but principle 3 of the Rio Declaration on Environment and Development, says that “the right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations”, and even that concept of equitable right to development was matter of a reservation.

Equity has different meanings in different contexts, equality has one single meaning. In the legal process, equity is a system of jurisprudence serving to remedy

inflexibilities of the law. In the field of the global commons like the atmosphere, the law is equality for every human being, but we use equity to moderate equality, to avoid equality, because equality is not acceptable for those who have been using a larger part of the atmosphere.

I'm not suggesting we should change the semantics we are using to understand each other. There are thousands of papers already developed using the concept of equity. What I want to point out is that when preparing the Third Assessment Report, IPCC writers must be aware that we use the concept of equity because in the present context it is not possible to build a system on the basis of equality. Vested interests are strong enough and difficult to accommodate if we work towards equity, but they will block any progress if the target is equality.

We shall use the available tools to negotiate, but it doesn't mean that we should forget that human beings are born equal. To reach and consolidate equality may be utopia, but utopia is needed to advance political ideals.

Equity as a condition for credibility

The document produced by M.Munasinghe points out that in the First and Second Assessment, equity was not an element adequately taken into account, and emphasizes that equity, together with development and sustainability shall be present in TAR, particularly in WG II and III chapters. Mr. Munasinghe is clearly correct. Coming from the policy making field, it takes some effort to understand the need of pointing out to scientific and economic authors that they must include equity in their analysis and conclusions.

Adequate inclusion of equity criteria in TAR is a condition "*sine qua non*" for its credibility. If TAR does not embody intragenerational equity, meaning it lacks equity for present times situation, the IPCC's aim will not be reached. Willing a credible assessment, it is imperative to incorporate equity criteria. Peoples who feel their situations and needs are not covered in the report, will not accept the report as reliable. Without due consideration of equity issues, TAR will lack the necessary condition to be recognized as valid assessment by developing countries.

Contraction and convergence

Long before the end of the Framework Convention negotiation, the Global Commons Institute has presented a proposal on contraction and convergence, aimed to reach equality in emissions per capita¹.

We all in this room know the GCI model where **contraction** is achieved after all governments, for precautionary reasons, collectively agree to be bound by a target of global GHG emissions, making it possible to calculate the diminishing amount of greenhouse gases that the world can release each year in the coming century, subject to

¹ See "www.gci.org.uk"

annual scientific and political review. The **convergence** part of the proposal means that each year's global emissions budget gets shared out among the nations of the world so that every country converges on the same allocation per inhabitant by an agreed date². Countries unable to manage within their shares would, be able to buy the unused parts of the allocations of other countries. The entitlement of rights transferred in this trading is legitimised by the per inhabitant criteria.

Level of contraction and timing of convergence should be negotiated on the basis of the precautionary principle. Suggestions for emission reductions are well known and convergence should be achieved at medium term to satisfy legitimacy.

I have read that the Chairman of IPCC's WGI, Sir John Oughton, has said that this is the "logical approach". Analysis of Contraction and Convergence in TAR is a must if equity is going to be taken into account in the report.

The burden of emission reduction

Now let us discuss which are the main difficulties to incorporate equity considerations in the IPCC assessment. Mr. Mugasinghe's document, in its Annex III, throws aside reducing emissions in all countries, industrialized and developing countries, because it has been recognized that developing countries need to increase their emissions. But, taken into account the high cost for industrialized countries, the same Annex III also gives up the possibility of equalizing emissions per capita among all nations. In fact that is why many industrialized countries oppose the Kyoto Protocol's entry into force. The main question then is how the burden of emission reduction compares with other internationally imposed burdens?

Coming from a developing country with a heavy external debt, I'm naturally inclined to compare the emission reduction burden with the burden of the external debt services. In fact they are not fully comparable. Payments of external debt services are transferred from countries in debt to creditor countries, but investments to reduce emissions remain where they are done and become assets. Payment of public debt is done from the public budgets of developing countries where monies are needed for public education and health, housing and social security, but industrialized countries investments to reduce emissions will come mostly from the private sector and will be apply to research, technology development and new equipment.

Even taking into account those differences, it is worth to compare both burdens and, as usual, the USA is the best example, not only because of the relevance of its emissions but also because of the wide availability of information. According to the US Department of Energy³, to satisfy commitments under Kyoto Protocol's Annex B, that country should reduce 552 million tons each year during the commitment period. Possible reduction costs in different scenarios has been presented as these examples

² Strictly, 80 countries are the source of 98% of global CO₂ emissions

³ See EIA, 1988 Analysis on the Kyoto Protocol, "www.eia.doe.gov"

Scenario	Cost per C ton	Yearly burden for USA Economy ⁴	GDP Percentage
Umbrella G + Europa Oriental + Key Developing C.	\$ 14	\$ 7 x 10 ⁹	0.07 %
Annex I + Key Developing C.	\$ 23	\$ 12 x 10 ⁹	0.11 %

Cost estimates of a possible fully domestic emission reduction of US's GHG according to Annex B, are well known and \$ 185 per C/ton is a figure in the pessimist range. Applying the same parameters to a scenario of fully domestic reduction, it would be

Scenario	Cost per C ton	Yearly burden for USA Economy	GDP Percentage
100% domestic	\$ 185	\$ 96 x 10 ⁹	0.94 %

At the same time, according World Bank statistics⁵, external debt services impact on developing countries GDP, in 1997 values, was

Argentina	6.3 %
Brazil	4.7 %
China	2.1 %
India	2.9 %
Indonesia	9.5 %
Malaysia	7.6 %
México	10.9 %

It seems that analyzing the external debt burden on developing countries GDP, additional approaches to equity may be found.

Are QELROS the equitable option for mitigation?

A key to understand the difficulties in taking equity elements to TAR may be the modality adopted for mitigation commitments. From the beginning and on solid ground, the scientific community has indicated that in order to stabilize GHG concentrations in the atmosphere, GHG emissions must be reduced in certain percentages, being the percentage and the time frame of the reduction variables depending on political options. In the main context of the UNFCCC, percentage and time frame depend on the still pending quantified definition of Art.2.

⁴ En el primere caso parece que se hubieran tomado en cuenta 500 millones de toneladas y en el segundo 520 millones

⁵ Quote document

Translation of that approach to legal binding terms in the Kyoto Protocol is shown as targets or QELROS established in Annex B for industrialized countries. UNFCCC asks for returning to 1990 emission levels and the Protocol mandates different percentages of limitation or reduction for the commitment period, taking 1990 as the base year. From the beginning it was evident that the rigidity of a base year for all Parties required some flexibility and thus the UNFCCC provides flexibility for industrialized countries in transition to market economy. That is also present at the Protocol, whose Annex B adds implicit acknowledgement of base year impact in the amounts assigned to some industrialized countries.

The fact is that we are facing a situation where it is very difficult to bring equity into play while acting with limitation or reduction targets as percentages of 1990 emission levels. May anybody state that assigned amounts of Annex B are equitable? Assigned amounts are the result of negotiation, in some cases they take data and other information into account and in other cases (as for Russia and Ukraine) they were simply imposed with negotiators' consent, possibly with the purpose of obtaining future advantages.⁶

It is well known that in order to stabilize GHG concentrations in the atmosphere, industrialized countries will have to fulfill their mitigation commitments but, in addition, developing countries which are relevant because the volume of their emissions or the high level of emissions per capita, shall adopt and implement certain mitigation measures. In fact all Parties, industrialized countries and developing countries, are committed by Art.2.1.b) to adopt mitigation policies, however the extent to which developing country Parties will effectively implement that commitment will depend by effective implementation by industrialized countries of their commitments related to the financial mechanism and the transfer of technology.

But, is it possible to imagine an equitable participation of any developing country in the mitigation effort since its right to increase current emissions of GHG is peacefully recognized? I do not believe the answer could be found in the context of targets of emission limitation or reduction percentages. I do not think the solution is in the QELROS framework. That is why the equity question is so complicated.

Equity problems have been analyzed mainly among nations because the States are the legal persons of the International Law, but some equity questions shall be analyzed from the regional point of view and also from the sub national point of view. Inside a developing country with a large population, may exist a population island equivalent to an industrialized country population if income per capita or life styles are taken into account. It does not seem equitable to protect that population island with the same shield

⁶ In a meeting with NGOs during the Kyoto Protocol negotiations, Aubrey Meyer asked me which differentiation criteria were being used in the process. As negotiations were very flexible, I answered that at the end of negotiations I would explain those criteria, and that allowed me to get out of the situation among the laughs of the audience. When the negotiation ended and the Protocol was adopted, Aubrey Meyer asked me again which were the criteria, and since I didn't know the answer, I simply said that with QELROS agreed criteria were no longer relevant.

designed to protect “less developed countries”, which is a subcategory inside developing countries group.

The principle of common but differentiated responsibility was implemented in the UNFCCC to differentiate developing countries from industrialized countries, and among industrialized countries those with economies in transition were again differentiated. The Protocol takes one step forward: quantified differentiation was implemented among industrialized countries. Even more, the “bubble” method created by Protocol Art.4 allows a group of countries to agree among themselves how to differentiate inside the group without any changes in the commitment of the “bubble” members vis a vis the other Parties. Equity also requires common but differentiated responsibility among developing countries, but it is difficult to implement through QELROS.

Mitigation efforts adopted as QELROS by industrialized countries, even with the differentiation of Annex B, do not offer a totally satisfactory answer to the equity question amongst industrialized countries. For instance, it doesn't look equitable that two countries with similar macroeconomic indicators and comparable production structures, end up with different QELROS because one belongs to a bubble and the other not.

For almost all developing countries QELROS are unacceptable⁷. Even when admitted as working hypothesis, they are not feasible as shown by the recent Argentine experience. Of course the main previous question is that until industrialized countries as a whole do not take the leadership in mitigating climate change reducing their global emissions as promised in 1992, there is no way to start discussing the point. But even assuming that industrialized countries honor their commitment, the concept of developing countries emission limitations (not reductions, limitations) has two negative connotation for those counties: first, it smells as a limitation to growth which is unacceptable by definition, and second, it implies consolidation of current different emissions per capita levels, which is also unacceptable.

Developing countries in general do not have conditions to accurately project their economic growth in ten or fifteen years, and consequently they lack the possibility to estimate emissions on those terms. I believe that countries with economies in transition do have a similar difficulty, but they are cover by flexibility added to the Protocol. The Argentine case, which I witnessed from outside, is paradigmatic: at COP 4 the Argentine Government committed itself to announce a target the following year, but at COP 5 it was able to propose only a “dynamic target”, in fact an equation dependent on future Argentine GDP which the Government was unable to estimate.

The interest on the Argentine announcement was big and the job done had solid domestic and international technical support. But it was not feasible to estimate with certainty economic growth for 2008/12. Lacking that needed projection a “dynamic target” was offered, “equal to the product of an index multiplied by the square root of the five year average of the GDP corresponding to the commitment period. The index is established at 151.5.”

⁷ Exceptions know until now are Argentina and Kazahthstan.

Efficiency standards as alternatives

If implementation of equity criteria on mitigation through QELROS implementation has so many difficulties, it seems convenient to start thinking on other means to limit and reduce emissions in a quantifiable way. All efforts already done on QELROS shall be kept and it is convenient to place the Kyoto Protocol to work, but other alternatives should be designed, complementary of what we have today and possible substitutive for commitment periods beyond 2012.

WRI has suggested⁸ carbon intensity indexes, linking CO₂ emissions and GDP to take into account the global performance of a national economy. This method allows recognition of economic improvements in many developing countries, particularly in China, through implementation of economy efficiency measures. Those measures had produced reduction in GHG emissions by GDP unit, with increase in total emissions because the economic growth. This WRI proposal opens a new possibility, which is worth to explore from the equity point of view. The material has been published and consequently should not be excluded from TAR.

However, there are serious problems in utilizing conventional currency values to compare substantially different economic situations. Everybody knows that GDP is a flow account, which does not represent the wealth of Nations, to use Adam Smith's title. Irrational exploitation of a natural resource will increase the GDP giving to the naïve the illusion of wealth when the assets decrease, the same way that reconstruction works after a natural disaster enlarge GDP.

Market prices distortions over real values, is the root of frequent statements about lower emission reduction costs in developing countries. Costs may be lower in fact in substitution of obsolete technologies, but they are not really lower if estimates are based on the use of natural resources at values bellow the values of the same resources in industrialized countries, in spite that production potential of the resource is identical in both cases. Realistic correlation only might be done on indicators of production potential weighted in volumes, not on domestic purchasing potential. The use of adjustment indexes like PPP may help to compare flows, but neither clarify external purchasing power nor solve the basic problem of correlating flows when wealth matter.

If a global standard by country based on GDP were not the solution, a reasonable alternative may be the adoption of a series of efficiency standards by gas for selected key sectors. In this way, it is possible to talk on certain volume of CO₂ emissions per steel or cement ton, or per MV of thermally generated electricity, or per freight ton moved by ship or truck or airplane, or certain volume of methane emissions per thousand heads of cattle, or certain volume of HFC or PFCs or SF₆ per million of BTU in air conditioning, etc.

⁸ "What Might a Developing Country Climate Commitment Look Like", Nancy Kate and others, Climate Notes, May 1999

It may be suggested that Parties to the UNFCCC may formally commit themselves to standards of GHG efficiency to be achieved in a time frame. Taking into account the production volume of each sector and its projection, emission reductions may be estimated. If sectors for emission efficiency were rightly selected, the emissions reduction impact would be relevant from the point of view of GHG concentration at the atmosphere. At the same time, efficiency added in the selected sectors, will permeate other sectors of the economy, as it is usually the case in technology progress.

This multiple sector GHG efficiency standards mechanism has the benefit of not suggesting any limit to economic growth and should not be objections from the equity point of view. At the same time, it is not related to the “emissions per capita” element. These two issues were pointed out *ut supra* as the basic reasons for developing countries to reject QELROS implementation. Of course matters related to the financial mechanism and transfer of technology maintain their strong relevance, perhaps their relevance will be even stronger than in the QELROS scheme.

The mechanism naturally recognizes the specific needs of each country, being equitable at the same time for industrialized and developing countries. For instance transport is a relevant source of emissions in geographically extended countries, requiring standards of efficiency in transport will make equity implementation easier than a simple target on emissions.

Adoption of emission standards has always been around in climate change negotiations and the fix as policies and measures according with UNFCCC Art.4.1. With the avalanche of proposals produced at the beginning of the Kyoto Protocol negotiations, efficiency standards were present. In the context of other international regulations, it seems that this suggestion may be middle of the way from ISO 14000 and PPM criteria discussed at the WTO’s Trade and Environment Committee.

Subject to the acceptance of these ideas or a better elaborated one that somebody else could produce, it will be possible to think about another Protocol to the UNFCCC open to bind all Parties to the Convention because efficiency helps to achieve the objective of the Convention and its also compatible with Kyoto Protocol’s Art.2 and 10. At the same time it will not impose non-equitable QELROS on developing countries, but it will be in line with common action for quantifiable results. Of course QELROS will offer results of simpler quantification, but in mid term the reduction trends are similar