How Should the Kyoto Mechanisms Be Designed?

- CASA's View and Proposal -

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Main Points

-The Kyoto Mechanisms' systems design and their operating rules should be the subject of discussion with a long-term perspective and based on the principles of sustainability (global warming mitigation), equity, and efficiency.
-Mitigation of global warming is the policy issue that should have highest priority; thus efficiency should be attained in accordance with the goal (the condition) of global warming mitigation.
-Attaining reduction targets should basically be accomplished with domestic policies and measures, and ceilings should be placed on use of the Kyoto mechanisms.
-Credit fungibility should not be allowed between mechanisms.
-CDM/JI projects should be limited to sustainable projects such as renewable energy, and should not allow nuclear power, new thermal power plants, or projects with heavy environmental impacts such as large hydropower plants.
-CDM projects should not allow sink.
-Transparency of the Kyoto Mechanisms' systems design and their operating rules should be assured, as should the participation of citizens and NGOs.

I. Introduction

Japan's government has formed an Umbrella Group with the US, Canada, and other countries, and is advocating views that expand loopholes which could sabotage the reduction targets agreed to under the Kyoto Protocol. COP 6 will be a vital meeting that will determine the overall framework of the Kyoto mechanisms' systems and operating rules.

This paper analyzes the problems in the position advocated by the Umbrella Group including Japan, and poses questions about the principles required by the Kyoto mechanisms, and their systems and operating rules.

II. Three Principles

As the IPCC warns, global warming could be serious and long-term, and could cause irreversible damage. It is the developed countries that cause global warming, while it is the developing countries that will bear the brunt of the impacts. What is more, there is much uncertainty about the extent of the damage, and colossal expenses are anticipated for adaptation and preventive measures.

Judging by the characteristics of the global warming problem, the three principles of sustainability (global warming mitigation), equity, and efficiency should always be taken into consideration in protocol negotiations. In the event of conflicts among principles, their order of priority should be sustainability first, equity second, and efficiency third.

From Protocol negotiations we can see that while all countries agree on such principles, it appears that the Umbrella Group thinks efficiency is most important, while developing countries think equity is most important. In consideration of the IPCC's target of stabilizing atmospheric CO2 concentration at 550 ppmv, and the guarantee of economic development for developing countries, the developed countries' emissions reduction obligation under the protocol is highly inadequate. In view of these considerations, COP 6 will be expected to produce an accord aimed at introducing policies that will maximize the synergy of the three principles of sustainability, equity, and efficiency. In other words, it will be necessary to define the concept of sustainable development, which all countries agree on, as an amalgamation of these three principles, and to explore indicators to measure sustainable development.

1. Sustainability

Sustainability is a concept set forth in the Club of Rome's "The Limits to Growth" and elsewhere. At first interest was focused on the sustainable use of resources, but discussion on achieving both environmental conservation and economic growth began with WCED's "Our Common Future".

The following three challenges should be considered in connection with global warming.

(1) The environmental/ecological challenge. Mitigation of global warming has the highest priority. Economic activities producing impacts on the ecosystem by increasing greenhouse gas emissions must be limited to within the ecological and physical capacity of the environment.
(2) The economic challenge. Developed countries' socioeconomic systems must work to accomplish a shift away from the current mass production, mass consumption, and mass disposal.
(3) The social challenge. We must create indicators (population, land, employment, illness, mobility, poverty, education, and health) of social fragility, and set up governance systems that set forth clear measures of value for people's livelihoods.

2. Equity

Global warming involves the following four equity problems.

(1) The developed countries are responsible for over two-thirds of the CO2 emitted since the industrial revolution.
(2) Developing countries are subject to greater harm due to global warming impacts such a sea level rise and climate change.
(3) Differences in the adaptive capacities of developed and developing countries (ecological, technological and financial, social, institutional

space.

(4) The issue of intergenerational equity, because the generation creating the problems leaves them to future generations.

These things are evident also from the facts that the FCCC adopts the principles of "common but differentiated responsibilities" and "[in accordance with their] respective capabilities" for dealing with climate change, and that the FCCC's Articles 4.3 and 4.4, as well as the Kyoto Protocol's Article 3.14, state that the developed countries shall provide the funding and technology needed by developing countries to cope with global warming, and that the developed countries will cover the costs for measures to adapt to the adverse impacts of climate change.

Equity is an extremely important principle in consideration of long-term remedial measures, and of future reduction targets and remedial measures of all parties to the convention, including developing nations.

3. Efficiency

Efficiency has two facets according to economics: One is Pareto efficiency and the other is cost efficiency.

In the debate over Pareto efficiency the issue is whether the standards of present or future values should be considered more important. But in connection with environmental problems, especially global warming, it is possible that giving too much weight to the benefits of the present generation will impair intergenerational equity.

In the process of making policy decisions in modern society, which is subject to various resource limitations, cost efficiency is an element that cannot be ignored. But because global warming has long-term, irreversible impacts, its mitigation should be given the highest priority on the policy agenda. In that sense the cost efficiency standards employed here must be restricted to those which are attained in accordance with the goal (the condition) of global warming mitigation.

III. Position of Japan and the Umbrella Group on the Kyoto Mechanisms

The following items are seen as the problems in the position taken by Japan and other Umbrella Group members on the Kyoto mechanisms.

(1) The complete negation of supplementarity.
(2) Allowing credit fungibility between Kyoto mechanisms.
(3) The loosest possible systems design for the Kyoto mechanisms.

The main purpose of this position is to cut costs and achieve economic efficiency. Effectively this would lessen the magnitude of emission reductions by developed countries, which could result in higher GHG emissions. It might also undermine the basic framework of the Kyoto Protocol, which aims to reduce emissions for the developed countries as a whole. Another problem is that this position runs counter to equity.

Main Points of Japan/Umbrella Group Position on the Kyoto Mechanisms

Position Point	Problems
No ceiling on use of mechanisms (the terms "a part of" and "supplemental" are not used).	**Totally negates the idea underlying the principle of supplementarity, which is clearly set forth in the protocol.**
Project approval and verification methods conform to domestic mechanisms	**As long as a third-party organization is not the implementing entity, there is no way to assure that a project qualifies.**
Allowing fungibility	**Impairs the underlying principles of the three Kyoto mechanisms.**
Both paragraphs 3 and 4 of the protocol's Article 3 should be allowed for sinks.	**Depending on the treatment of Articles 3.3 and 3.4, this would bring about project and data uncertainty, and without conserving forests.**

Sources: United Nations, "FCCC/SB/2000/3," "FCCC/SB/2000/4," "FCCC/SB/2000/MISC.4."

IV. CASA's View and Proposal

1. Setting Caps on Mechanism Use

If one considers each mechanism in accordance with the theories of economics, placing no caps on the three mechanisms is the most efficient means of achieving the sought emission goals. That is to say, if there are no limitations at all on emissions trading performed under the mechanisms, it is only natural that each country will, from among all the available means of reducing emissions, begin with the means having the lowest unit cost. But this entails the following problems.

First is a CDM problem. Emission reductions implemented in developing countries will be counted even though there has been no reduction for the Annex B countries as a whole. In other words, the problem is that the overall assigned amount for Annex B countries will be increased even though it is supposed to be reduced.

Second, the absence of a cap will to an extent delay domestic measures in the developed countries. The developed countries might become dependent on inexpensive reduction measures in developing countries, leading them to neglect efforts on domestic remedial measures and technology development, and on the shift to different socioeconomic systems. Not only would this further increase the danger of global warming, it would be inefficient over the long term.

Third, there is a great possibility that developed countries would anticipate the inexpensive reduction measures in developing countries. The principle of equity would be one reason not to sanction this.

The Kyoto Protocol clearly states that the mechanisms are "supplemental to domestic actions" (Articles 6 and 17) and a "part of their... commitments" (Article 12). Additionally, FCCC 4.2(a) states unequivocally that developed countries are to take the initiative in implementing domestic remedial measures. It is natural to interpret these provisions as meaning that while in principle the developed countries are supposed to reduce their greenhouse gas emissions basically by means of domestic measures, the supplementarity principle was introduced with the idea that, due to the immense costs that domestic measures entail, those countries may to a certain limited extent gain emission reduction units and credits from abroad.

A rebuttal to this is that establishing caps will hamper economic efficiency. But if the Kyoto mechanisms operate without caps, it is possible that Annex B countries' assigned amounts will be increased, thereby making it impossible to assure the effectiveness of emission reductions. There is still no proof that real reductions can be achieved by a system and mode of operation that seek only economic efficiency without establishing any cap. It is also necessary to consider not only emissions trading, but also what would happen if we were to allow the fungibility of CDM and JI credits, discussed below. If these things are not considered, then opposing caps for the sole reason of economic efficiency might result only in relaxing the developed countries' obligation to reduce emissions.

2. Credit Fungibility

Just as with the argument about caps, economic theory says that if we do not allow the fungibility of credits, economic efficiency will be impaired. Specifically, if fungibility is not allowed, each of the three mechanisms will have its own market, which will bring about economic inefficiency.

But if we allow credit fungibility among the three mechanisms, whose systems have different purposes, there is no longer any sense in keeping the systems separate. Another concern is that projects and transactions will concentrate in the CDM, under which reduction costs are expected to be low for the time being. Still other problems are those of risk and responsibility. For example, if a CDM project has failed even though its credits have already been exchanged in emissions trading, we have the problem of how to make the implementing entity take the responsibility. Problems like this could subvert trust in the mechanisms as a whole.

One purpose of the CDM is facilitating technology transfer to developing countries, and one purpose of JI is technology transfer to EITs. There is a problem with conceiving the design of these systems, whose purposes are different, solely on the basis of economic efficiency. On the basis of these considerations, fungibility among mechanisms should not be allowed.

3. Conditions for CDM/JI Projects

Article 12.2 of the Kyoto Protocol states explicitly

that one of the CDM's purposes is to assist sustainable development in the developing countries, and this makes it essential that projects qualify under certain requirements and have transparent selection criteria. JI does not have rules like those of the CDM, but there should be consideration for the same condition of sustainable development as in the CDM because host countries hope that projects will contribute to regional development.

(1) Limitations Imposed on Projects

The Umbrella Group insists that projects should be chosen on the basis of agreements between the countries involved, and that basically the host country should decide on the conditions for sustainable development. But as we have seen from past ODA projects that were called into question, there is a danger that implementing parties will push through projects that do not take local economies and the intentions of local citizens' into consideration. Projects should therefore be limited from the perspective of global warming mitigation and sustainable development.

To begin with, nuclear power plants, new thermal power plants, and large hydroelectric plants should be excluded from projects. Especially nuclear power has lost much of the citizens' trust even in the technologically advanced country of Japan because of continuing accidents and unfortunate incidents. Japanese public opinion polls indicate that about 70% of the citizens feel uneasy about nuclear power. It is evident from accidents and the problem of radioactive wastes that nuclear power is not a "sustainable technology," and should not be eligible for projects. Consider also the fact that Japanese nuclear plants receive massive subsidies of several trillion yen annually. CASA's research concludes that in Japan too nuclear power is costlier than other types of power, and in that sense as well it is not a sustainable technology (CASA [2000], "Is Nuclear-Generated Electricity Really Inexpensive?").

Sinks should also be excluded from projects for reasons including: they do not conserve forests; there is a significant possibility that they will not reduce emissions; and data and projects themselves are subject to a great deal of uncertainty. If sinks become CDM projects, they might create huge loopholes.

CDM and JI projects should be mainly wind, photovoltaic, and other renewable energy forms, and energy conservation. The cost of renewables is an issue, but in Japan the budget invested in renewable energy is under 1/100th that for nuclear. If the research budgets, subsidies, and other budget allocations for renewable energy were equal to those for nuclear, cost and other problems of renewables could be solved.

(2) Assuring Additionality

The Kyoto Protocol says that CDM and JI projects are to be additional to emission reduction. According to OECD/IEA, the baseline approach affects a project's environmental additionality through impacts at the gaming, free rider, and leakage levels (OECD/IEA [1999], "Options for project emission baselines"). Thus setting the baseline is of the greatest importance, and we must hope that caution will be exercised.

The Umbrella Group contends that criteria should be as loose as possible so as to cut trading costs. However, this might bring about a negative environmental effect by raising a project's number of emission credits. Therefore to allow the proper evaluation of a project's environmental additionality, strict criteria should be established to show the emission reduction amount, environmental impacts, and impacts on local communities, and a highly reliable baseline should be set.

(3) Assuring Transparency

Transparency has been lacking in ODA and AIJ activities thus far. To begin with, there has been publicity only about the positive effects of projects, but hardly any release of information about detailed fact-finding investigations and problems. What is more, local citizens have hardly ever been given a description of a project or an assessment of its impacts at the formulation stage. When implementing CDM and JI projects it is necessary to release detailed information on projects themselves, their additionality, their environmental impacts, and other aspects.

Also required is an institutional guarantee that local citizens and NGOs can work with the organizations carrying out CDM and JI projects. Citizen participation is essential to guarantee a project's

sustainability.

V. Summation

It appears that Japan's government and other Umbrella Group members are busying themselves with the search for loopholes that will allow them to avoid costly domestic measures for the sole purpose of short-term cost reductions. But the protocol negotiations should be premised on achieving two things: a solution to the global warming problem, and sustainable development. For that purpose, we must design systems for the Kyoto mechanisms following the three principles described above.

We hope very much that at COP6 governments will recall that global warming is a long-term, irreversible problem that controls the fate of future generations, and therefore engage in discussions while keeping in mind that our primary aim is to mitigate global warming.

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