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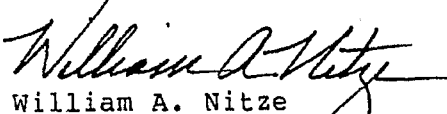
SUBJECT: U.S. Concept Paper on Financial Measures

TO: Topic Coordinator  
Response Strategies Working Group

Attached is a paper on Financial Measures developed in accordance with guidance of the Steering Committee of the Response Strategies Working Group (RSWG) of the Intergovernmental Panel on Climate Change (IPCC).

The United States has prepared a set of papers which identify and discuss a range of possible measures that could be used to implement response strategies to limit or adapt to global climate change. The "implementation measures" presented in this and other papers will be considered at the Workshop on Measures to Implement Strategies to Limit or Adapt to Climate Change in Geneva in October. A full evaluation of these measures will require that they be considered in the context of specific response strategies once they are identified.

These papers are intended to provide a range of measures for consideration by the RSWG and do not constitute a recommendation.

  
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and Natural Resources  
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Attachment

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## U.S. CONCEPT PAPER ON FINANCIAL MEASURES

This paper on Financial Measures has been developed in accordance with guidance of the Steering Committee of the Response Strategies Working Group (RSWG) of the Intergovernmental Panel on Climate Change (IPCC). A full evaluation of these measures will require that they be considered in the context of the reports of the Science Working Group and the Impacts Working Group and of specific response strategies, once they are identified. This paper is intended to provide a broad range of measures to stimulate discussion by the RSWG at the workshop and does not constitute a recommendation by the United States.

Summary:

Several principles should guide the discussion on development of financial measures to implement possible global climate change response strategies.

- Developing country measures and potential needs for financial assistance to implement those measures should be placed in an economic/developmental context.
- Priority attention should be given to facilitating those measures which can have an early impact in reducing emissions of greenhouse gases and yield positive economic returns; the greater the net benefit, the higher the priority accorded to that measure.
- Developing countries should identify and begin to implement market incentives and other measures which will result in sustainable development as well as reductions in greenhouse gas emissions.
- The donor community should in a coordinated fashion consider the impact of development programs on global climate change, address possible needs for increased assistance, and assure that scarce assistance resources are used effectively.
- Donors should employ the full range of their assistance programs -- project loans, sector and other policy-based loans, and technical assistance -- in addressing global climate change concerns.
- Donors could expand support for innovative measures, such as voluntary debt-for-nature-conversion programs, and help stimulate new private capital investments.

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- New funding mechanisms should be considered only if thorough analysis shows that existing delivery mechanisms are incapable of delivering such aid as may be necessary. This may require some modification or expansion of existing programs and institutions.
- Proposals for a separate global climate fund are similarly premature and raise serious concerns. Substantial work would need to be done to identify activities which might be supported. Any resources would need to be raised on a voluntary basis. The compatibility of a separate fund with existing assistance programs would also have to be demonstrated.

#### Introduction:

Financial implementation measures should aim for full and effective participation of developing countries in the process of responding to any global climate change.

In the broadest sense, two separate areas need to be addressed with regard to global climate change and the developing countries. First, how can the developing countries be assisted in adapting their economies and ecosystems to the effects of global climate change? Second, how can emissions of greenhouse gases from developing countries be limited while maintaining economic growth.

Financial measures strategies should help facilitate early actions by LDCs which the IPCC process identifies as having a favorable benefit/cost ratio, and at the same time assure that a sound basis will be developed for dealing with the interplay of development and environmental issues over the long term. The strategy will also need to address developing country concerns that the cost of responding to global climate change not reduce their long-term economic growth prospects

Although the scientific community has not reached a consensus on global climate change, some developing countries may be particularly vulnerable to such change.

An effective international response to global climate change will require the participation of developed and developing countries alike. Countries will be presented with difficult choices, since the costs of adapting technology or changing economic incentives are usually direct and measurable, whereas the benefits are more diffuse and long-term. There may be difficult trade-offs among competing social, economic and environmental goals.

Some developing countries may confront particular problems in responding to climate change due to their financial constraints, limited numbers of scientific and managerial personnel, and market rigidities. Developing countries fear that devoting scarce financial resources to address global climate change concerns could adversely affect their rates of economic growth. Some developing countries also regard potential calls to alter their rate of development of domestic resources (e.g., coal or rain forests) as unacceptable infringement on their sovereign rights.

The willingness of developing countries to undertake measures to reduce their levels of greenhouse gas emissions (or to cut the rate of growth in emissions) will be influenced by: the extent to which they have participated in the process of developing global response strategies; their perception of direct benefits from implementing response strategies; the degree to which developed countries take steps to reduce their own levels of greenhouse gas emissions; and the level and terms of assistance provided.

Donors will want to assure that their assistance is provided in the context of country development strategies that complement the adjustment effort.

#### The Economic/Developmental Context

In evaluating the need for new government policies, there is always a tendency to proceed from a straight-line projection of existing practices and economic relationships. This can easily produce a misleading, exaggerated projection of the need for government spending or, in this case, of the need for higher official assistance levels.

The IPCC process may identify a range of strategies which developing countries might undertake to respond to global climate change, both in terms of adapting their own economies to possible impacts from global climate change, and in terms of limiting the growth rate of greenhouse gas emissions. Many measures in this area might also be found to be beneficial on economic policy grounds. They might be achieved either through reorienting existing assistance programs, or by altering market incentives, without need for additional assistance flows.

Adaptation strategies need to be examined in the economic/developmental context. To the extent that rises in sea level or changes in rainfall or temperature levels occur, key developmental parameters such as crop selection and spending on irrigation will be affected. Many of these strategies need not be implemented until change occurs. However, some actions, such as management of coastal areas, may be desirable sooner to limit costs of later adjustment.

It is equally important to address limitation strategies, and the financial measures which they may entail, in the economic/developmental context. Inappropriate economic incentives to developing country producers and consumers could overwhelm the positive impact of assistance flows targeted specifically to address global warming concerns. For example, economic incentives and pressures for more intensive utilization of land and water resources, together with sociological factors, directly impact the rate of deforestation and soil degradation. Similarly, subsidizing electricity prices could work against programs designed to reduce need for fossil-fuel power generation.

In terms of developmental policy, improvements could be achieved through reorienting existing assistance programs and investment strategies. Substantial resources are already being invested in sectors which impact on climate concerns. Energy represents a major share (30% for some large countries) of developing country investment budgets and donor assistance programs. For the World Bank and IDA combined, investment in power generation was 10.4% of total commitments in FY 1988.

Some measures undertaken to limit emissions can also pay solid, short-term economic dividends. Studies by the World Bank and other organizations indicate that DCs could benefit economically by reorienting investment plans to emphasize energy conservation (efficiency of power plants, cutting distribution losses) rather than attempting to meet higher demand for electricity only through building new power plants. Similarly, improved forestry management can increase economic returns while reducing rates of deforestation.

Other pro-environmental measures, such as reducing soil depletion, would have a positive but longer-term economic payout.

There will also be a need to evaluate the impact of limitation measures which might be desirable on climate grounds, but which would clearly entail higher costs, and which might not have positive economic returns. For example in a given country, shifting energy generation investments away from fossil-fuel power plants to hydro or nuclear power could entail higher costs.

### Developing Country Contribution to Global Warming

It is estimated that developing countries accounted for about 33% of global greenhouse gas emissions in 1980, and that their share may have risen to 40% in the late 1980's.

Developing countries accounted for over 90% of global carbon emissions from deforestation in 1980. Although the problem of deforestation touches many developing countries, the problem is concentrated in a small number of countries. Indeed, it appears that emissions associated with deforestation in four countries exceeded total fossil fuels emissions from all developing countries combined in 1980.

Current high growth rates in fossil fuels carbon emissions in developing countries is a further source of concern. Annual growth rates in fossil fuels emissions have exceeded 6% in a number of large developing countries. The economies of these countries are characterized by very intensive use of energy (per unit of GDP), reflective of development strategies which have emphasized heavy industry and capital-intensive investment strategies, and inefficient use of annual energy supplies.

If recent patterns in fossil fuels and deforestation emissions continue, the developing countries would represent an even larger share of the total greenhouse gas emissions. This is clearly reflected in the three scenarios for future emissions, which the Response Strategies Working Group of the IPCC is employing to analyze the climate change. These scenarios should not be viewed as predictions, but rather as illustrative of the levels and patterns of emissions which could occur under different sets of assumptions. Under all of these scenarios developing country emissions make up a larger share of the total. By 2025 the developing country contribution to greenhouse gas emissions could rise to as much as 50 percent of total global emissions. Over this same time period emissions from the USSR and Eastern Europe would remain at roughly 20% of the total, while the OECD share of emissions is projected to fall to about 30 percent.

### Impact of Global Warming on Ecosystems and Economies of Developing Countries:

The impacts of global warming on managed and unmanaged systems and the costs of adaptive responses could add to the difficulties which developing countries already face in promoting economic growth and social welfare. Natural resources in many of these countries are already under considerable stress due to rapid population growth and development induced desertification and deforestation. Significant increases in temperature and sea levels and changes in precipitation could pose additional threats to food and fiber security, coastal zone development and wetlands, the management of water resources, the protection of sensitive ecosystems, and ultimately human health in some countries.

For example, global climate change could alter food and fiber production and trade, and could exacerbate food and fiber shortages in developing countries. Higher temperatures, changes in precipitation and possible increases in desertification, salinization, and changes in the frequency and magnitude of extreme weather events may result in shifts in regional productivity.

Sea level rise could also result in inundation of coastal lands and loss of coastal wetlands, beach erosion, increased flooding of coastal areas, and saltwater intrusion. Further, global climate change may impact upon water resources through changes in the spatial and temporal distribution of precipitation and run-off, the supply of and demand for water, and the frequencies and magnitudes of droughts and floods. A rapid rate of climate change could also impact on already vulnerable natural ecosystems and impede their ability of ecosystems to adjust, and the ability of species to migrate to more suitable habitats.

If developing countries are not able to take necessary measures now to respond to the potential adverse impacts of global climate change, they might have to deflect even larger levels of resources to cope with emergency adjustment needs in the future. A review of current and potential international financial cooperation could help encourage developing countries to consider and implement policy changes which may be necessary to limit and adapt to possible global warming.

#### Flows of Official Developmental Assistance (ODA)

Multilateral and bilateral development assistance programs contribute enormous resources to augment flows of private capital and the efforts of developing countries. These assistance programs touch the full range of economic activity in developing countries, and try to meet multiple, sometimes competing objectives.

The breakdown of ODA provided in 1987 was:

-- Total ODA:	\$56.5 billion
Multilateral (estimates for agencies to which the US contributes):	(26.5)
Bilateral:	(30.0)
US:	(7.0)
Japan:	(5.2)

It is also important to note that major increases in assistance programs are already in process. The World Bank annual lending program is rising substantially, approaching \$20 billion in FY 90, and a sustainable level of about \$22.5 in the early 1990's. Similarly, Japan's ODA is to reach \$10 billion per year in 1990.

Aid programs aimed at the energy, agricultural, and forestry sectors obviously have direct bearing on global warming concerns. No clear boundaries between "economic" and "environmental" programs can be drawn, however. This fact has become increasingly recognized as the donor community has focused on promoting sustainable economic development, which takes into account the resource needs of future generations.

#### Current Measures to Improve the Environmental Impact of Assistance

The multilateral development banks (MDBs) include the World Bank Group, the Inter-American Development Bank, the Asian Development Bank, and the African Development Bank. Taken together, these four institutions are the most significant source of funding for development projects and programs in more than 120 developing member countries throughout the world. In their most recent fiscal years, the MDBs provided over \$28 billion in assistance, of which about \$7 billion was from highly concessional soft loan windows (e.g., the International Development Association). The capital of the multilateral development banks have been increased by over \$110 billion as a result of international agreements to increase their capital and provide additional funding for concessional lending purposes.

Thirty percent of World Bank Group lending was for structural and sectoral adjustment purposes in 1988/89. Of the project loans that were approved, 23 percent were for agriculture and rural development, 12 percent for energy, 14 percent for transportation, and 12 percent for industry. In the regional development banks, these same economic sectors also accounted for the largest shares of project lending.

All of the multilateral development banks have initiated a series of reforms aimed at integrating environmental considerations into all aspects of their lending operations. These reforms are farthest advanced in the World Bank. In fact, environment was highlighted as an area of special interest in the agreement to increase the Bank's capital. The executive directors expressly agreed in a report to governors that there would be an additional emphasis on the need for better management of natural resources and integration of environmental work into country development strategies, policies and programs, the evaluation of environmental costs of projects, and the mitigation or elimination of adverse effects.



The World Bank and other MDBs are undertaking a number of measures to improve the environmental impact of their programs, as indicated below.

- Creation of environmental departments to monitor the appraisal of specific projects and programs, and seek incorporation of environmental provisions as appropriate;
- Hiring of environmental staff;
- Providing training on environmental issues to other professional staff members;
- Conducting outreach programs for non-governmental organizations and environmental agencies in their borrowing member countries;
- Beginning to develop environmentally beneficial projects;
- Increasing significantly technical assistance for project identification and other pre-project activities;
- Utilizing contributions from Japan (which donated 700 million Yen for an environmental trust fund), the U.S., and other countries to expand technical assistance programs;
- In the case of the African Development Bank, utilizing environmental experts seconded from developed countries;
- Making significant progress in identifying and including environmental components in specific projects. (Many IDA energy and agricultural credits have incorporated environmental components.);
- Targeting some sectoral lending programs specifically toward environmental concerns, such as the ADB's forestry sector loan for the Philippines. A number of other adjustment credits have involved environmental components, such as those to Ghana, Gambia, Guinea-Bissau, Laos, and Pakistan;
- In the case of the World Bank Group, beginning preparation of Environmental Issues Papers for each of its borrowing member countries. (Country-wide environmental strategies are being formulated in the form of Environmental Action Plans which recommend specific actions that should be taken with emphasis on policy, legislative, and institutional changes. At this point, such plans are either under way or completed in six countries including Madagascar, Lesotho, Burkina Faso, Ghana, Guinea, and Rwanda.);

- Undertaking a number of regional environmental studies, including the capital cities clean-up project, the strengthening of environmental training institutions in the Asia-Pacific region, a watershed sector review in the Asia region, and a study of remote sensing and geographical information in renewable resource management in Africa; and
- Beginning an intensive work program by the World Bank's research and policy staff;

These efforts represent substantial progress and indicate that the multilateral development banks are emerging as leading sources of funding expertise for environmental work in developing countries. Nevertheless, further efforts will be necessary to respond effectively to current and future environmental problems.

The MDBs will need to take effective steps soon to:

- assure that environmental impact assessments are completed in a timely manner for all projects and programs that they finance;
- increase public access to environmental information on projects in advance of board consideration;
- promote energy efficiency and conservation programs;
- develop special standards for evaluating projects that may adversely affect tropical moist forests and other fragile eco-systems; and
- involve local community groups and non-governmental organizations more actively in project identification and appraisal as well as in other parts of the project cycle.

Bilateral Programs: Bilateral donors are expected to provide over \$35 billion in assistance to developing countries in 1989. A large share of this assistance (over 80% in the case of the U.S.) is in the form of grants.

In general, bilateral programs have demonstrated leadership in supporting local non-governmental organizations, small-scale industry and agriculture, incorporation of new technologies, and strengthening the private sector in general.

An exhaustive treatment of bilateral programs targeted toward environmental problems is not possible, but the following efforts of the U.S. Agency for International Development are indicative.

A.I.D. provides funding for a wide range of activities which are designed to protect the environment and to manage natural resources. Total funding for specifically-designated environmental and natural resource programs is expected to be about \$220 million in FY 1990, about the same level as in FY 1989. In addition, in many A.I.D.-assisted countries, local currency funds are available to support local environmental non-governmental organizations (NGOs) active in park management, environmental education, and the conservation of biological diversity and tropical forests.

A wide range of other A.I.D. programs, including energy, agricultural, and population programs, impact on overall environmental and climate change concerns.

Environmental projects and strategies supported by A.I.D. include the following:

- Incorporation of environmental and natural resource concerns as components of most agricultural programs;
- Specific environment/natural resource projects in at least ten countries, in addition to regional environmental/natural resource programs;
- Support for upgraded water and wastewater treatment facilities;
- About \$130 million for technical assistance, training and research activities, mostly for resource management activities. Emphasis is on soil conservation, watershed management, management of coastal areas, environmental training and institution building.

A.I.D.'s project efforts which address the problem of climate change are reflected in its support for forest management, reforestation, renewable energy, energy conservation and research. Examples include:

- Approximately 150 forestry projects, with estimated life-of-project funding of \$586 million. On an annual basis about 30 percent of total forestry funding supports reforestation.
- Development of more effective management systems and policies to prevent forest loss. This includes helping Indonesia develop more sustainable forest policies, and providing assistance in forest fire prevention.
- Development in Mali of a village reforestation project, which should incorporate agronomic, watershed management, and agroforestry techniques that can easily be used by village farmers.

- Substantial support for energy efficiency and renewable energy projects. Energy efficiency programs have been undertaken in at least 25 countries focusing primarily on industrial energy conservation and improvements in electricity generating facilities.
- Support for policy and institutional reforms and technical advice to strengthen the ability of developing countries to implement energy efficiency improvements. The programs offer a proven and highly cost-effective way for developing countries to increase their energy supplies, lower energy costs, and improve the profitability of energy consuming enterprises.
- Examples include planned development of a major industrial conservation program in Egypt, and a new national energy conservation policy in Morocco. Other long-standing programs will include an energy conservation training program in West Africa and working with several countries in Central America to improve efficiency in the electric power sector.
- Active support of renewable energy programs, dating to the mid-1970's. Current efforts, about \$10 million in FY 1989, include a bioenergy project aimed at encouraging private investment in small scale electrical generation. Other programs involve wind, solar, geothermal and small hydropower.
- Assurance that best available technologies will be incorporated in any projects for fossil energy development and electric power generation.
- Institution of more comprehensive energy planning methods, particularly to affect decisions at the investment planning stage. A.I.D. is promoting adoption of a type of least cost energy planning, in which non-conventional energy supply options and efficiency improvements on both the supply and demand side are considered, in utility planning. Such a program is being undertaken with the State electricity board in Gujarat India.
- Of particular relevance to the IPCC's work, several research projects are currently underway to estimate projected changes in developing country energy consumption and fuel mix and to understand the relation between expanding developing country fossil energy use and deforestation as they effect global climate change. In particular, under a contract with the Oak Ridge National Laboratory, A.I.D. is currently conducting a study to determine the geographic focus, nature and economic costs and benefits associated with reducing greenhouse gas emissions in Sub-Saharan Africa.

The study will estimate rates of deforestation, forest degradation, desertification and other significant changes in land use across regional and national boundaries using computerized geographic information systems.

### Debt-for-Nature Swaps

There is growing recognition of the positive contribution which can be achieved from voluntary conversion of commercial debt to support environmental objectives. The Summit of the Arch declaration in July 1989 welcomed further expansion of such conversion programs.

As of April 1989, roughly \$100 million in proposed debt-for-nature conversions had been approved by the governments of Costa Rica (\$75 million), Ecuador (\$10 million), Bolivia, the Philippines, Madagascar, Niger, and others. Several other countries such as Zambia and Zimbabwe have allowed conversion of "pipeline" dividend or capital remittance payments for similar purposes. These debt conversions can in principle be targeted for a wide variety of environmental purposes. In practice, they have been targeted mostly for preservation of tropical forests.

Debt-for-nature conversion has occurred on a voluntary basis. Although circumstances around individual transactions vary, in general these conversions have been made possible by grants from foreign governments or environmental groups to local non-government organizations (NGOs). The NGOs have used these funds to purchase foreign-held commercial debt of the government at a large discount from its nominal price. Agreements with the local central bank to repay loan principal and/or interest in local currency, and with other ministries concerning the operation of environmental programs, are essential parts of these debt conversions. Costa Rica's success in stimulating debt-for-nature exchanges reflects the strength of local NGOs, clear government guidelines on how local currency payment will be effected, and the fact that its foreign commercial debt is selling at a deep discount.

A number of efforts are underway to encourage expansion of debt-for-nature swap programs. U.S. AID and European donor countries are providing some funding for local NGOs for this purpose. Significant expansion of these programs is dependent on willingness of developing countries to implement new environmental programs, and development of policy guidelines by the central bank and environmental ministries to facilitate the negotiations. A number of developing countries have also raised serious concerns about the inflationary implications of debt conversion programs in general. Nevertheless, significant opportunities exist for expanding the positive contribution of these programs, including through direct funding from the multilateral development banks.

### Coordination of Assistance Programs

The Development Assistance Committee (DAC) on the environment has provided a forum for coordinating donor efforts to address environmental problems. In early 1989 a DAC Council recommendation was adopted providing an environmental checklist for high level decision makers in bilateral agencies and in the multilateral development banks.

The DAC has also established a special work group on the environment to begin to develop ways to assist developing countries in preparing collaborative approaches to alleviate some of the most serious global environment problems, including those related to climate change. The group will hold its first meeting this fall. A preliminary work plan has been approved which gives highest priority to helping developing countries participate in developing and implementing some of the major international treaties and conventions now being considered dealing with climate change, ozone depletion, transboundary shipments of potentially toxic chemicals and hazardous wastes, and biological diversity. Within the next year the group plans to examine progress under the Tropical Forestry Action plan and other mechanisms to increase support for reforestation and forest management in developing countries.

A number of consultative groups have been established to deal with sector-specific problems. These include the multilateral Tropical Forestry Action Plan, under the auspices of the Food and Agricultural Organization, and the Working Group on Power Sector Innovation. The latter is chaired by A.I.D. and includes the multilateral development banks, and several donor countries.

### Future Donor Response

Donor countries and institutions will need to coordinate closely in order to make the most effective use of scarce assistance resources. Their approaches should be developed in consultation with developing countries, as intended in the IPCC process. Donor responses could include the following elements.

Assessment of Measures: Drawing upon findings of the IPCC, donors could identify measures which can have a large impact on reducing emissions of developing countries. They could also evaluate costs which would be entailed.

Long-Term Approach: Donors could help develop long-term approach response strategy based upon a firmer understanding of the interplay among developmental/environmental factors. This should aim at helping developing countries limit or adapt to climate change.

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This should also take into account the impact of scarce scientific and administrative personnel, and the presence of market rigidities that may constrain the ability of developing countries to take adjustment and limitation measures. The impact of population pressures should also be addressed.

Adaptation of existing lending programs: Donors could assure that all their programs are consistent with global climate response strategies. This effort could include the following elements.

Assuring that project loans effort do not have undesirable or unjustifiable impacts on greenhouse gas emissions;

Designing specific projects (adjustment, limitation, and sink enhancement projects) to help respond to concerns regarding global climate change;

Establishing coordinating mechanisms (such as an Energy Conservation Action Plan) as necessary;

Employing the full array of their programs (project loans, sectoral reform loans, technical assistance, co-financing with the private sector) in addressing these concerns;

Identifying and giving priority to measures which are desirable on both economic and environmental grounds;

Making additional funds available to developing countries who undertake vigorous measures to limit emissions;

Cooperating to establish guidelines and conditions under which assistance would be made available in key sectors (such as energy);

Providing higher levels of assistance if there is a need to undertake measures to reduce GHGEs which do not produce economic benefit to developing countries;

Seeking ways to provide additional or more concessional funding for environmental projects with positive, but long-term economic payout;

Facilitating diffusion of the best available technology at the least possible cost;

Supporting R&D targeted at adaptation needs of developing countries;

Supporting the development of local non-governmental organizations; and

Making their development project planning more transparent.

Donors are already pursuing initiatives in most of the above areas, as noted previously. If future information indicates that it is necessary, these efforts could be intensified and targeted more specifically toward limiting emissions and helping developing countries adapt to the impact of climate change on their economies.

Facilitating new approaches: Donor countries and institutions may also want to encourage development of voluntary "debt-for-nature" conversion programs. Limited programs in this area to date have been successful. As local environmental groups increase their capacity to implement environmental programs, and as local governments develop more active debt-for-equity and other debt conversion programs, the positive contribution of debt-for-nature exchanges can be expanded. The donor community could begin now to expand its support for these programs through (1) technical assistance for local environmental groups; (2) a "clearing house", probably under the auspices of the World Bank Group, to match and facilitate discussions among debt holders and interested governments and environmental groups; and (3) lending directly for this purpose, both by bilateral donors and by the multilateral development banks. Donors could also be aware of the limits of expanding such programs rapidly. It will be important to preserve the voluntary nature of these transactions, and to assure that they do not interfere with debt reduction efforts designed to support economic reform programs of developing countries.

An expanded role for the private sector will also be important for assuring a rapid, cost effective response strategy. The private sector has demonstrated that it can be particularly effective at employing conservation technology, building efficient power generation facilities; and developing new natural gas and renewable energy resources (with the possible exception of large-scale hydro projects). Moreover, many of these ventures can be undertaken by the local private sector (perhaps with some multinational assistance or technical support), financed with local currency. Donors should consider innovative ways of supporting an expanded role for the private sector. For example guarantees of power purchase contracts may be important in countries where public entities, sometimes with a history of repayment problems, are the primary end-users. Expanded cofinancings or other incentives might also be considered. The role of private firms in reforestation could also be dramatically expanded.

Coordinating other programs: Donor countries will also want to assure that other programs -- such as export credit facilities and trade policy -- take into consideration any new agreed response strategies. For example, it could be difficult for the MDBs to encourage adoption of energy sector reforms if export credit agencies were offering substantial support for undesirable projects (such as old-technology fossil-fuels generating plants).



The Response of Developing Countries:

If reductions in greenhouse gas emissions levels are deemed necessary, it will be important for developing countries to give serious consideration to a number of factors affecting their emissions levels:

- Investment strategies, and how they can be adapted to best balance economic growth and climate change concerns;
- Market incentives (e.g., collection of electricity bills, full-cost recovery in energy pricing) and the need to eliminate subsidies which may have adverse impacts such as encouraging deforestation;
- Avoiding increasing costs of adaptation strategies (e.g., no preference for higher-cost domestic producers of energy-generating or emissions-control equipment);
- Encouraging private foreign and domestic investment, both to stimulate economic growth, lessen dependence on ODA, and allow the private sector an expanded role in the energy production/transmission sector.

DELIVERY MECHANISMS

Initial emphasis should be placed on making donor assistance programs and policies for encouraging private investment compatible with eventual IPCC recommendations. With donor resources scarce, it will be important to avoid redundancy in delivery mechanisms and assure that assistance is provided in the context of country economic/development programs. Donors would be expected to intensify their efforts to support climate response strategies as outlined above.

The multilateral banks should be central to the financial response strategy. The MDBs are the principal source of official financial assistance, and their programs can have a major impact on energy and forestry sectors. They are also increasing their attention to environmental concerns.

As the IPCC process proceeds, and greater understanding and consensus is achieved as to the possible responses which may be most effective in addressing global change, and the magnitude of adjustments which may be recommended on the part of developing countries, developed countries should be prepared to consider to what extent higher assistance levels or new funding mechanisms might be needed.

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The concept of a global climate fund poses a number of serious problems. First, the need for such a fund has not been demonstrated. It would be essential to identify the magnitude of adjustment needs, and exactly what the monies in the fund would be spent on, before committing to the concept. It would not be productive to spend money on overhead expenses or to transfer funds to governments without identifying specific investments or activities on which this money will be spent. Considerably more work is needed at the national and international levels to identify requirements of individual countries for technology, equipment, training or infrastructure development. It will also be necessary to identify appropriate incentives for private and public sector investments before resorting to new international mechanisms.

Second, the question of how resources would be provided for a global fund raises very serious problems. There is firm opposition to providing money for such a fund from any form of mandatory taxes or fees. Proposals for mandatory fees appear designed to assure large perpetual inflows of resources into a fund. This would violate the cardinal principle of funding assistance programs -- that future resources should be made available on the basis of demonstrated need and the institution's record in using resources effectively. Moreover, any proposal for assessing an international tax/fee on fossil fuels consumption on a mandatory basis would raise serious questions of sovereignty. Countries should have the right and flexibility to choose among a variety of adjustment and funding measures. In order to justify mandatory fees politically, taxpayers must be persuaded that strict standards are being employed in determining the fund's need for resources, and in monitoring the costs and benefits of its programs. This level of public confidence would be almost impossible to achieve. For all these reasons, any mandatory program would not be viable.

Third, there are already a number of international mechanisms including bilateral development assistance programs, multilateral development banks and various existing U.N. development programs such as UNDP, which need to be utilized to assist developing countries in responding to climate change. Their strong involvement is essential to assure that assistance is provided in the context of compatible sectoral policies, and because adaptation strategies would affect key developmental parameters. Full use should be made of the existing mechanisms, as well as market-based technology and investment transfers by the private sector before making any commitments to create new institutions or to increase capitalization of existing financial institutions.

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If a thorough assessment concludes that existing mechanisms are inadequate, consideration could be given to a special international facility, for funding on a voluntary basis, which could provide financial support for specific undertakings in developing countries. Such a facility could be managed by the World Bank or some other existing institution.