

REPORT ON SITUATION CONCERNING INTER-AMERICAN INSTITUTE FOR GLOBAL CHANGE RESEARCH

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I welcome the opportunity to come before you on behalf of the many scientists and government agency officials in the Americas to report to you on the developments concerning the Inter-American Institute for Global Change Research. It is an honour to speak on their behalf, and to share with you some of the experiences we had in the past couple of years. I want to note also that with me are two individuals, who also have served on the development committee and are currently serving on the implementation committee for the institute, Dr. Ruben Lara Lara, from Mexico and Mr. Louis Brown.

The idea of Regional Institutes for Global Change Research, was born in the scientific community in the mid to late 1980s, as the scientific community began to think about how to implement the goals and objectives of the then new IGBP, the World Climate Research Programme, and the budding interest in Human Dimensions. As many of you know, in Dec. 1990 IGBP hosted a workshop that set the intellectual framework for the development of regional institutes throughout the world by bringing together key scientists from many countries to help think through the strategy. Just prior to that, in April 1990, the President of the United States at his White House conference, extended an invitation to countries around the world to think about regional research institute in three regions: the Americas, Euro-Africa, and Asia-Western Pacific. The United States seeks the opportunity to work with other countries in developing all of these; however, it has put most of its time, energy and resources in what is now known as the Inter-American Institute for Global Change Research.

Early in thinking about a programme strategy for regional institutes there were five topical areas that drove our interests. We talked with our colleagues in the Americas about what was important, what would be nested, and what would be facilitated by a network within a region. The main issues are: 1) research, that needs to be of particular importance to the countries of the region, enabling them to do things that they would not be able to do alone; 2) the sharing of scientific data and information, so that scientific studies can reach beyond countries, reach beyond boundaries, and as we heard in this meeting, become global in their major perspective; and 3) these regional institutes should become major players in the development of data information exchanges and networks. Because of the importance of having a partnership among all countries and scientific communities throughout the world, the issue of education, training, and infrastructure development was central to our thinking about developing a regional institute in the Americas.

These institutes are not only closely related to the scientific programme interests in the regions, but are also seeking to serve the countries in which they are nested. Two factors became important in our planning: public awareness and knowledge. That means going beyond just being certain that government officials, who are in the policy process, are aware and knowledgeable about global change science but, that public industry, business are also well informed. *These institutes should serve that purpose. It almost goes without saying that the last point is central in order that government and institute can serve the policy development interest of the country in which the institute is located.*

Out of that came an interest to develop the Inter-America Institute. In July 1990, a workshop was hosted in Puerto Rico in which invitations to every country in the Western Hemisphere were extended, and to many other countries who might have an interest in the Western Hemisphere, and other organizations such as IGBP, ICSU. Twenty-two nations in the western hemisphere joined together along with ten other countries or international organizations and thought through some of the central ideas that now have become known as the Inter-American Institute.

Put simply, the underpinning ideas were that the institute will foster three very simple ideas: 1) the principle of scientific excellence, that the scientific knowledge that is needed to support global change interest has to be the best that the science community in the world can produce; 2) it requires international cooperation at all levels, not previously implemented in the Earth sciences; and 3) the full and open exchange of scientific information is central. In fact, this was emphasised in the final agreement that was signed by establishing the institute in May, 1992.

From a broad perspective and primarily from the research orientation we seek to do four things: 1) to document global change; 2) get our sciences well established, with a scientific basis of data obtained in the "laboratory of the globe"; 3) to use that to advance our intellectual understanding of key processes, and hence our knowledge about how our planet functions; and 4) to use that to help develop predictive models of both regional and global environmental change. In addition, assessing the impact of that knowledge on countries' interests, being certain that our collective knowledge is well articulated, is the central ingredient of the Inter-American Institute.

From the very beginning the Inter-America Institute felt strongly about establishing a sound scientific agenda that reflects the interest of the scientific community in the region, and serves the interest of the countries that would come together and support the institute. And the input, the basis on which that scientific agenda was built, comes from a variety of perspectives. Firstly from the international scientific community that has developed fundamental and important scientific core research project in the IGBP, as well as in the WCRP and HDP. Ascend 21 has given us a framework to enhance the key priority questions that need to be addressed to deal with the global environmental issues. A second source of information to help set the scientific agenda is to review the international scientific assessments to determine the priority areas that are central in answering such questions as ozone depletion, climate change and others. Those assessments are establishing scientific priorities.

Further, there are regional interests that are detected by either national academies or regional bodies that help identify the key scientific questions that are relevant to regions such as in the Americas. Out of that came in the Americas a workshop (several, in fact) that led to the document that begins to articulate the nature of the scientific agenda that is going to drive the Inter-American Institute. A lot of efforts went into trying to be certain that the agenda is unique and important to the region, addressing issues of central importance of communities of scientists in our part of the world, and also reflect governmental interests. There are some special overtones that we applied in developing that agenda. One of particular importance was the recognition that these are unique bio-geographical characteristics of our region, that feed into the larger interests of global research around the world.

Amazonia is probably the most obvious of the unique features in this region. One cannot talk about global change without mentioning Amazonia. There are some other characteristics that are unique to the region. Thus, in both the North and South we have two temperate terrestrial regions both of which are very central to the agricultural industries of the United States, Canada, Mexico, Brazil, Chile, and Argentina. Some comparative studies can be made of those to help unravel the complex questions about terrestrial ecology. Similarly, the Americas are unique in the sense we have high latitude regions that are reachable both in the Arctic and the Antarctic and high altitude regions that are important. There is another characteristics of the region that is unique: the mountain ranges that run from Northern Canada to the tip of Tierra Del Fuego. These give rise to some special processes, particularly on the western slopes and continental margins in the oceans of those regions. And of course, we have oceanic regions of special importance in the Caribbean where there exists some mini-monsoon processes.

These special characteristics led us to develop seven major topical research areas that are important to this region, and we believe relate well to the IGBP, WCRP, and HDP questions concerning tropical ecosystems, biology, chemistry, biodiversity, and high latitude observations. Tropical ecosystems will obviously focus heavily on Amazonia. The impact of climate change and biodiversity, which is central to many of the countries interest in the Americas, will focus on the significance of both the effect on climate changes on the regions, as well as the effect of those regions on the climatic process, focusing on temperature, rainfall, CO₂ and other aspects of global change.

One of the things that will provide a linkage to other regions is ENSO (El-Niño Southern Oscillation) because it links many parts of the world. If you try to do a simple summary of the effects the ENSO process occurring in the equatorial region in the Western Pacific has profound impacts on precipitation processes and drought, not only in the Western Pacific but also in South America, Africa, and North America. Recent evidence strongly suggests that these processes are even seen in high latitudes, such as the Arctic.

TOGA-COARE project is in high gear. TOGA-COARE is a good example of the kind of cooperation that takes place. Twenty countries, many from this region are working together to uncover some of the very central processes that are occurring in the Western equatorial regions, about a four-month intense study during which time about \$35 million will be invested in the research effort by these twenty countries. There is a companion proposal that has been prepared by a special task group of the international TOGA board to look at the possibility of establishing an International Institute for Climate Predictions that would focus on ENSO and inter-annual variability. One of the key features is that in implementing it there would be application centers to do work in regions such as the Americas, and possibly in this region (Asia pacific), and elsewhere. So, central to that proposal, which is on the table, is a direct linkage to the Inter-American Institute and other institutes that might form throughout the world. (Documents can be obtained from Pierre Morel, WCRP or from our Washington office. I urge you to look at it).

Programme

I am sure many of you have questions of the detail about how we are planning to implement. Let me just say a word or two about the organization and management structure. In developing the legal agreement which was signed by a number of countries in May to set up the IAI, we had to go through not only the scientific agenda but, what was the basic organizational strategy and management strategy and fiscal strategy.



Program Objectives

- ✓ **Documenting Global Change**
- ✓ **Enhanced Understanding
of Key Processes**
- ✓ **Predicting Global and
Regional Environmental Change**
- ✓ **Assessing and Synthesizing the
State of Scientific Knowledge and
Implications of Global Change**

Structure

The institute structure is a distributive structure, a network. It does have a core directorate where there will be a director of the institute, and necessary machinery to facilitate cooperation, possibly even some major function of the institute such as data information exchange. There will be, throughout the region, a number of IAI research centers that will be designated by the governing body of the institute, which is called the Conference of the Party, they will be designated and would be long term. Many of them will be existing institutions whose programmes will be adjusted to meet the scientific agenda of the institute. But, there is a commitment to strengthening, even building, institutions throughout the region where the scientific infrastructure is not as well developed as might be desirable in the long term. And hence, not only research infrastructure building but, infrastructure building in education and training will not only do research but, will be an organic part of the education and training infrastructure development.

The Institute is also designed to accommodate short-term arrangements with institutions in the region that might come in for 3-5 years; a university or a laboratory to participate in a particular research thrust that might be only short-term in their interest and the interests of the institute. There is a whole series of documents that lie behind all of this, and if you're interested we will be more than happy to show them to you.

The IAI, like any institution that might develop here, needs to see itself as part of a larger process of Global Change Research. IGBP, WCRP, and HDP are some of the primary vehicles for integrating all of these across the globe. In May, in Montevideo, Uruguay the countries joined together and formally signed a legal multi-national agreement to establish the IAI. Eleven of those joined and we received a phone call last Friday from Canada indicating that they will join the region as well, and becoming the twelfth member.

The legal document that underpins the IAI is a treaty like arrangement, and is called the Conference to the Parties. And in virtually all the countries of the region, it requires ratification by the legislative body of that country. This institute will become formally established when six of those legislative bodies have endorsed the document. The last count I had, three possibly four countries have done so, and all eleven have their formal proposals before their legislative body: none of them anticipated any difficulty in final ratification. Therefore, we expect that the IAI will become formally established. All of its legal machinery will be in place in early 1993.

When the Ministers of Science and Technology, and in some cases, Ministers of Environment signed the agreement in Montevideo in May, they also signed a companion document called the Montevideo Declaration. That established formally an implementation committee, and each country that signed was able to appoint an official representative to that committee. The purpose of that committee was to do a very substantial amount of homework so that when the legal body was in place a great deal of the background work would be done such as: getting a great deal more detail on the scientific agenda, through a series of workshops (several of which have already been held, many more of which will be held in months ahead); drafts of rules of procedures; mechanism for proposal preparation; how to choose the director; and where are the sites located. All of that has to be done by the implementation committee, and our schedule is to have that all done and ready for the Conference of the Party by early 1993. So far, the schedule is playing out pretty much as we anticipated. We don't see any major reason why this institute will not be functioning under full legal international authority among these countries within the next several months.

For your information, because it's a formal inter-governmental agreement between many countries in the Americas, a vehicle had to be established for handling that documentation. Uruguay agreed to be the host of the documentation for signing procedures for the first year. During which time any country that sign is a founding country. Thereafter, arrangements are handled by the Organization of American States (OAS), a formal international body. The OAS will not have any oversight responsibilities. They are the host and holder of the formal agreement. The legislative body for the IAI is a Conference of the Parties which will go into effect as soon as six countries have finally signed the agreement.

The countries provide a pretty broad spectrum, from developed and developing countries, with Canada recently joining it. Our attention will be to encourage the Caribbean nations to come on in a much more direct way.