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UNESCO, Columbia University and Smithsonian Institution Team Up for Research on Man and the Biosphere

New York - UNESCO, The Smithsonian Institution and Columbia University have agreed to collaborate in research, training and outreach activities to encourage economic development consistent with preserving the environment and biodiversity.

An important component of this collaborative work will be to develop projects involving North-South environmental and economic policies.

The collaboration brings together the Smithsonian's expertise in the biological sciences, Columbia University's strengths in the social sciences and UNESCO's practical expertise gained from its Man and the Biosphere (MAB) program's global network of more than 300 biosphere reserves, explained Dr. Thomas Lovejoy, Adviser to the Smithsonian on biodiversity and environmental affairs.

"We are trying to marry the interdisciplinary strengths of the three institutions to create something that really measures up to the interdisciplinary challenge facing people in the environment," he said.

"The biosphere reserves in the MAB program would be an excellent field for experimenting on ways to manage sustainably ecosystems and their essential resources like water and biodiversity and for elaborating methodologies and models," added Dr. Pierre Lasserre, Director of UNESCO's MAB program.

One of the consortium's goals will be to provide "advanced training for young decision-makers in connection with conservation that could generate ecjobs," he said.

In addition to the United States, where there are currently 47 MAB biosphere reserves, the consortium will be looking initially at developing projects in Argentina, Mexico and Brazil, Mr. Lasserre said.

"This agreement puts together economic development and the issue of biological conservation," said Professor Graciela Chichilnisky, the UNESCO Chair in Mathematics and Economics at Columbia University. "We intend to look at patterns of development which are harmonious with the biosphere. Everything that we do will have intellectual and policy dimensions, as well as practical applications."

Besides using the MAB biosphere network for field experiments, the consortium is also looking to utilize the research facilities of the Biosphere 2 Center in Arizona. Professor Chichilnisky explained that while the MAB sites would be used for experiments in nature, the Biosphere 2 facilities



A golden lion tamarin peers from behind a tree in the Mata Atlantica biosphere reserve in Brazil. UNESCO, Columbia University and the Smithsonian Institution have formed a new partnership to study how preserving biodiversity, such as that found in this forest near Sao Paulo, can be done in harmony with economic development.

Photo: Conservation International/Russel Mittermeier

would be used for experiments in a closed system "where full control is needed." She also envisioned the setting up of "high-speed information links" to share data among the MAB sites participating in the consortium's work.

A biosphere research meeting was organized by the consortium at Biosphere 2, in early March 1997, to develop an action plan for the development of innovative methodologies of valuing, managing and financing the biosphere to promote global economic and social progress, and for making efficient use of Biosphere services.

A proposal for the launching of an Institute for Biosphere and Society (IBS) was elaborated by the consortium. UNESCO and the Smithsonian are also considering a Memorandum of Understanding on joint cooperation in the area of culture.

One of the first field sites for a project by the consortium will be in the Mata Atlantica MAB Biosphere Reserve in Brazil, one of the largest and most threatened rain forests in the world.

Financed by the World Bank, the project aims to study policy options for the management of the watershed, which serves 20 million people in the region of Rio de Janeiro. The project will develop and test a methodology that could apply to a range of important ecosystems represented in the UNESCO-MAB sites.

Another project would look at the economic value of preserving the biodiversity of the Rio Reconquista which provides most of the drinking water to Buenos Aires. The river's water is purified by microorganisms which are being threatened by pollution.

"To understand the value of these microorganisms, we can look at New York City where similar microorganisms in the water supply are dying due to pesticides and fertilizers," Professor Chichilnisky noted.

The city will have to spend about \$2.2 billion over the next 15 years to protect its watershed from pollution. The plan includes buying adjoining land to its 19 reservoirs, building sewage treatment plants and subsidizing environmentally sound economic development. The goal of the Rio Reconquista project would be to demonstrate the economic advantages of preserving the river's biodiversity, she said.

The partners will also consider a project dealing with water circulation in the Florida Everglades, which is both a MAB biosphere reserve and a World Heritage site.