



ENVIRONMENTAL TRAINING



NEWSLETTER OF THE ENVIRONMENTAL TRAINING NETWORK FOR LATIN AMERICA AND THE CARIBBEAN

Volume 11, Number 25, July-December 1999

Letter from the Editor

The Environmental Training Network ended the 20th Century with intense activity, making progress in meeting the purposes set by this regional program since the 1980s. National programs of environmental education and National Environmental Training Networks have been organized and strengthened. Universities are reevaluating interdisciplinary programs redefining their role in environment and sustainable policies.

Several meetings relevant to this were held in the latter months of 1999:

In May the Argentinian Ministry of the Environment held a National Environmental Education Meeting, as part of the Environmental Institutional Development Program (PRODIA). In this meeting, the work conducted by the program to develop a plural and participatory program, establishing centers of environmental education and training in various provinces of the country, was assessed. Provincial environment education programs have also been created, such as that of the Province of Córdoba and local participatory Agenda 21 projects like the one in the city of Córdoba, Argentina.

In June, the Fourth National Environment Training Network Meeting was held in Medellín, Colombia, with the participation of the Ministry of the Environment, institutions for the promotion of research and teaching, universities and regional development corporations, as well as social and community non-governmental institutions. The Meeting included a general assembly, where its standing committee was renewed and agreements were reached on the organization and future activities of the Colombian Network.

In June, the II Convention on the Environment was held in Cuba, where an Environmental Education Conference was organized in which the outlooks in this field for Cuba and for the rest of the countries in the region were discussed. In this purview, the first International Environmental Training Meeting FORAM 99 was organized by the Center of Environmental and Natural Resources (CEMARNA) of the University of Pinar del Río, in the Nature Reserve of Soroa.

In October, the First National Forum of Universities and the Environment, summoned by the National Environmental Council (CONAM) of Peru was held. This Forum promoted the work of universities within CONAM's environmental policy, in addition to organizing a National Environmental Training Network.

Also in October, a National Environmental Education Forum was held in Aguascalientes, Mexico, with the participation of the Ministry of the Environment and the Ministry of Public Education, the National Association of Universities and Higher Education Institutions (ANUIES), chancellors, professors and students of several universities of the country and members of social and community groups active in the field of environmental education. In this Forum, an important step forward was given in the development of programs and activities of environmental education through wider processes of participation among various levels of the federal government and civilian groups.

The Second Seminar on University and the Environment in Latin America and the Caribbean was held in Cali, Colombia, in November. It was organized by the Universidad del Occidente in Cali, at the initiative of the Ministry of the Environment, and supported by the Colombian Environmental Education Network and UNEP's Environmental Training Network for Latin America and the Caribbean. The progress made in recent years was discussed in the Seminar and the challenges that universities will have to face with respect to environment policy were re-examined, projecting their work towards the sustainability and welfare of the peoples of the region (see p. 2).

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UNIVERSITIES AND THE ENVIRONMENT

II SEMINAR OF UNIVERSITIES AND THE ENVIRONMENT IN LATIN AMERICAN AND THE CARIBBEAN

During the XI Meeting of the Forum of Ministers of the Environment, held in Lima, Peru, in March 1998, the Colombian Minister of the Environment proposed, and the Meeting of Ministers agreed, to hold the Second Seminar on Universities and the Environment in Latin American and the Caribbean in the year 2000 at the latest.

The purposes of this Second Seminar were:

- a) to make an evaluation of the progress made in university environmental education as of the First Seminar held in Santafé de Bogotá in 1985;
- b) to make an assessment of the contributions made by universities to the environmental and sustainable development policies of the countries in the region and particularly, their cooperation with national government agencies responsible for such policies;
- c) to draft the principles of a Plan of Action to be developed by the universities with the purpose of reinforcing the contributions of universities, research and higher education centers to the sustainable development of the region.

With this background information and purposes, the Ministry of the Environment promoted the organization of the Second Latin American and Caribbean Seminar on Universities and the Environment, which was held on November 24 to 26, 1999 at the Universidad Autónoma de Occidente in Cali, Colombia, with the collaboration of the Colombian Environmental Training Network and the United Nations Environmental Program's Environmental Training Network for Latin America and the Caribbean, and sponsored by the Colombian Institute for the Promotion of Higher Education (ICFES) and the Regional Corporation of the Valley of Cauca.

In addition to the above purposes, the Seminar set the following

General Objectives

1. To make a critical analysis of the epistemological bases of the interdisciplinary of environmental training and research programmes.
2. To discuss social, management and practical psychological difficulties in building interdisciplinary processes of environmental training.

Pedagogical Objectives

1. To disseminate the outcomes of the experience on the process of building environmental knowledge and their inclusion in environmental training.
2. To reflect on principles and concepts to renew environmental research and training strategies in Latin America and the Caribbean as well as design their implementation mechanisms.
3. To foster the establishment of collaborative synergies and joint actions among the sectors and institutions participating

in the meeting.

Representatives of universities of the following countries attended the Seminar: Argentina, Bolivia, Colombia, Cuba, Chile, Mexico, Peru and Venezuela.

As a result of the deliberations and debates of the Seminar, the Plenum agreed on the following conclusions and recommendations to be submitted to the Ministries of the Environment, the Universities and Research and Higher Education Institutions of the countries in the region:

Considering,

- a) That the Forum of Ministers of the Environment of Latin America and the Caribbean has acknowledged environmental education and training processes as a basic tool for environmental management of the countries in the region.
- b) That the policies for environmental management of the countries of Latin America and the Caribbean and in the region as a whole should involve the consultation with and participation of all the sectors of public administration, education, research and training institutions, private sector, non-governmental organizations and all social groups.
- c) That while the environmental policy includes learnings and knowledge coming from the spheres of knowledge production that go beyond the boundaries of research and higher education institutions, universities have historically constituted (and will continue to do so in the foreseeable future) the main centers for the production of knowledge, high-level human resources training and dissemination of culture.
- d) That environment and sustainable development issues must be confronted from a holistic point of view and through interdisciplinary methods that allow the integration of knowledge and intercultural dialogue, to approach environmental complexity issues and translate them into policies for the sustainable management of natural resources of the peoples of Latin America and the Caribbean.
- e) That therefore, universities and research and higher education institutions must share their ability to systematize knowledge and training of human resources to policies and processes oriented to social, environmental and democratic sustainability of the countries in the region, strengthening their functional links with national, provincial and local governments and the various sectors of society.

Also recognizing that:

- a) The United Nations Environmental Program's Environmental Training Network for Latin America and the Caribbean has become an important horizontal cooperation mechanism among governments, international agencies, environmental education and training institutions and several sectors of society.

b) The Regional Network has encouraged a wide process of environmental training in the region, supporting the generation of regional courses where officials and professionals of environment policies are trained, producing and disseminating environment knowledge according to the economic, ecological and cultural conditions of our countries;

c) That the Environmental Training Network has cooperated in establishing National Environmental Training Networks in several countries in the Region, as a mechanism for coordination among government and educational organizations, and different sectors of society, for designing and developing environment and sustainable development policies, favoring democratization of the State and of universities.

d) That it is necessary to strengthen the coordination mechanisms between the Network's National Focal Points, universities and other government, educational and social institutions, to strengthen the capacities of the universities in the field of the environment and thereby to reinforce the environment policies of the countries in the region.

The Seminar recommends:

A. To the Ministers of the Environment:

a) To keep supporting the Environmental Training Network for Latin America and the Caribbean as a priority program for governments and universities of the region.

b) To strengthen cooperation of the universities of the countries in the region with the Ministries of the Environmental, Science and Technology Councils, Associations of Universities and Higher Education Institutions Associations, Regional Corporations, etc.

c) To encourage the establishment of National Environmental Training Networks, as mechanisms of cooperation between the Ministries of the Environment and other national, regional and local government institutions, funding agencies, private sectors, non-governmental organizations and civil society, including community organizations.

d) To tighten these relationships by institutionalizing cooperation agreements.

e) To identify and disseminate successful experiences in the organization of National Environmental Training Networks and other similar mechanisms (Sustainable Development Advisory Councils), so that each country can make progress in the establishment of more operational mechanisms for the cooperation of knowledge and government institutions leading to a participatory environmental management of sustainable development.

f) To establish capacities in UNEP's Focal Points to maintain permanent communication with the universities, assess research and training programs and projects and establish yearly activity programs to be developed in the framework of the Regional Environmental Training Network.

g) To explore inter-institutional cooperation mechanisms at the national level and, if appropriate, establish Operational Committees with the participation of UNEP's National Focal Points, universities, Science and Technology Councils and funding institutions for the permanent coordination of the

Network's activities.

h) To continue promoting the development of environmental education and make efforts to open and consolidate spaces for environmental research, training and education in the universities linked to the research, diagnosis and resolution of environment and sustainable development issues of the countries in the region.

j) To set participatory mechanisms in the universities to act as advisory bodies for decision-making in the field of environment policy.

k) To continue their contributions to the Trust Fund of UNEP's Environmental Training Network, established as a basic fund for the development of projects, programs and activities that can raise supplementary funds from other financing alternative sources (international and regional institutions, foundations, universities, research and education promotion agencies, etc).

B. To the Universities:

1. To promote the inclusion of environmental knowledge in universities, consolidating environmental research and training centers that can disseminate this knowledge to different institutes, centers and university departments, so that the environment will no longer be considered as a marginal subject and segregated from the rest of scientific, academic and extension activities of the universities.

2. To link universities to institutions devoted to research, professional training and technical training.

3. To foster the development and implementation of inter-disciplinary methods to produce research projects on complex environment problems, at the local, national and regional levels, seeking dissemination, problems application and extension to community projects and impoverished social sectors.

4. To define research methods and mechanisms of participation with communities so that the research, training and extension capacities of universities can be oriented to produce knowledge that communities can include in local sustainable development programs.

5. To strengthen communication mechanisms and link the Environmental Training Network with other university and environmental networks with a regional (Latin America and the Caribbean) and international scope, that will reinforce the capacities and resources of each institution for the development of knowledge, research projects and environmental training programs.

6. To establish operational communication mechanisms and enter into inter-university cooperation agreements to promote productivity, dissemination and implementation of inter-disciplinary environmental knowledge, academic exchange programs, inter-institutional research and training programs, exchange of faculty members, accreditation of courses and qualifications, etc.

7. To encourage strategies and activities to strengthen the inclusion of complex environmental knowledge in research, training and extension activities of the universities, including the following:

a) To establish institutional spaces for the development of

inter-disciplinary environmental research and training programs (institutes, centers, programs);

b) To establish environmental management committees in the universities, responsible for directing environmental policy, and leading to the systematic introduction of environmental topics in under-grade, post-grade and extension programs;

c) To foster interdisciplinary methods and institutional and academic strategies to include environmental subjects in the research and teaching programs of the universities;

d) To design flexible curricula, that include the knowledge of environment complexity issues oriented to solve the environment problems of the countries in the region;

e) To establish inter-disciplinary research teams and produce specific inter-disciplinary practices;

f) To hold Permanent Seminars for professors and courses leading to continuous training on environment inter-disciplinary and complexity issues and reflect them in the development of research, training and teaching programs to provide the students with a comprehensive perspective on sustainable development;

g) To offer introduction courses to first semester students of the various courses to include early on, environment topics in professional training;

h) To open interdisciplinary methods and practices to a dialogue of knowledge, to communicate formal knowledge of universities with other learnings and practices produced in non-academic spheres and with different visions and experiences on the environment.

C: To the Regional Coordination of UNEP's Environmental Training Network:

1. To continue identifying, promoting and assessing Centers of Excellence for Environmental Training and constituting, in cooperation with National Environmental Training Networks, Consortiums of Institutions that will work jointly in environmental training and research programs, including the development of Diploma Courses, Specialty Courses and Environmental Post-graduate Studies in specific environmental issues.

2. To prepare a diagnosis and an inventory of research projects and environmental training programs in Latin America and the Caribbean and enter this information on UNEP's Regional Environmental Information System, which can be consulted by all the members of the Network.

To encourage the development of the following main subjects in cooperation with National Networks and Universities:

a) Sustainability of local and community environmental projects.

b) Environmental complexity

c) Economy and environment; open to the different schools of thought.

d) Water management and hydrographic basins.

e) Climatic change, biological diversity, cultural diversity.

f) Clean production and appropriate technologies.

g) Biotechnology, transgenic products and biosafety.

h) Environmental education.

4. To develop, in coordination with National Networks and Universities, environmental training projects in innovative topics, where there is a social demand and a priority for the environmental policies of the countries (climatic change, biodiversity, biotechnology and sustainability; ecological economy, environment and natural resources assessment instruments: urban environmental management; agroforestry, agroecology and sustainable agriculture; energy, environment and sustainable development; environmental education, etc.) that can be developed through joint financial strategies.

5. Establish, together with National Networks and Universities, criteria to assess the activities developed by the Network and publicize its results, in order to obtain resources on the basis of their positive contribution to the environmental policies of the countries in the region.

6. Develop more effective communication strategies overcoming the simple transmission of information and allow a process of collective construction of knowledge to promote environmental education. Communication must serve to strengthen local and regional nodes, to follow-up and assess the Network's activity in order to strengthen theoretical construction allowing Latin America to put its own environmental language into context, which should contribute to the design of environmental thinking and democratize information inside and outside the Network.

7. In view of the information service provided by UNEP's web page to disseminate the activities coordinated and developed by the Regional Environmental Training Network, a recommendation is made to expand the Environmental Training Network web page so it can work as a more interactive means of communication between UNEP, the National Focal Points of the Network and Universities to exchange information, and to prepare, assess and develop joint projects.

8. To establish cooperation links with the International Environmental Journalists Federation and other associations to promote and disseminate the Network's activities.

9. To strengthen the Network's Publishing Program. To this end, the following is proposed:

a) To establish a Publishing Committee.

b) To create a mechanism for the distribution of publications.

c) To enter into publishing, joint publishing and distribution agreements between UNEP, Universities and National Focal Points, as well as with renowned publishing houses, fostering the creation of a specialized market.

d) To publish under a corporate identity.

e) To create a space for reflection, producing basic texts and reports, to consolidate environmental thinking in Latin American and the Caribbean, to guide the region's sustainable development policies.

FIRST NATIONAL FORUM OF UNIVERSITIES AND THE ENVIRONMENT

On October 4 and 5, the First National Forum of Universities and the Environment was held in Lima, Peru. This meeting was organized by the National Environment Council (CONAM), through its Environmental Education Management Office and with the support of UNEP's Environmental Training Network for Latin America and the Caribbean and the U.S. Agency for International Development (USAID).

Background:

Universities, as centers for the production of knowledge and technology are considered by the National Environment Council (CONAM) as one of the major driving forces of sustainable development and promotion of environmental quality.

Between 1996 and 1997, CONAM began to work on the diagnosis of the main universities of Peru that conducted environmental activities. The principal conclusion was that there was not a clear concept of the role of universities of the country in the area of the environment in most of the centers chosen, which is reflected in the curricula and contents of the courses they offer.

With this background information, the First National Survey on Universities and the Environment was prepared and sent out to 66 Universities of the country between April and May, 1999. Twenty-six universities (39% of the total) answered the survey and the main conclusions are the following:

- The universities are not sharing a common concept on environmental education. Many times its role is reduced to teaching courses or conducting contests, as an extension activity of the University and not so much as an internal research and education process.
- The implementation of Environmental Education has occurred in some cases in various schools of different universities, but no university has introduced environmental education cutting across their established curricula.
- There is a wide range of actions conducted by the University to implement the development of Environmental Education, ranging from courses and research projects to the establishment of Environmental Studies Centers, whose purpose is to work in the environmental field but, that operate as organizations separate from the university as a whole.

First National Forum:

In view of the above, CONAM summoned the Universities of the country to the First National Forum of Universities and the Environment, whose purposes were the following:

- To promote the insertion of environmental topics across the curricula for the training of professionals from all disciplines.
- To establish the bases of a National University Environmental Training Network.

The Forum was conducted in two parts with the participation of representatives of 30 national universities: The keynote speakers focused on Latin American experiences with

Universities in the field of the environment. Then, workshops were held to define the methodology to include environmental subject matters in Universities, in addition to the establishment of the National Network.

In the first part, Dr. Enrique Leff, Coordinator of UNEP's Environmental Training Network shared the efforts made by the Network to promote Environmental Training and Education in the countries in the region. To follow, Dr. Julio Carrizosa from the National University of Colombia, focused on the organization of the Colombian Environmental Training Network, and the design of the Masters Degree of Environment Management in the UNC and the way in which transversality was dealt with. Later, Professor Nanna Minini, advisor to the Brazilian Ministry of the Environment, discussed her experience in the design of the chairs of Environmental Education in the Federal Universities of Matto Grosso and Santa Catarina in Brazil. She also presented a Proposal on Participation and Action to Build Knowledge, as a practical way to confront the transversality of the subject of the environment in post-graduate studies.

In order to begin with the workshops, the Manager of CONAM's Environmental Education Program, David Solano, presented a methodology to include the subject matter of the environment transversally in university education, at undergraduate level. This method reflects the way in which CONAM deals with the subject of the environment with Universities, with the following purposes:

- To ensure that professionals who are University graduates know how their performance impacts the environment and that they acquire the tools available to minimize risks and/or benefit from opportunities.
- To favor the exchange of experiences between schools inside the University.

The summarized methodology is composed of the following steps:

- To appoint two schools where the work inside the University can begin.
- To establish support and advisory groups made up of representatives of the remaining schools of the University, to favor inter-disciplinary exchange.
- To identify the main environmental issues of the area where the University is located, as well as national and global problems.
- To identify the contribution made by the school to solve environmental problems, as well as the synergies in its relationship with other schools.
- To identify the key gaps in the education of professionals in improving environment quality.
- To revise and change curricula, including elements or activities that will allow future professionals to have a vision of environmental problems as well as the tools necessary to solve them.

CONAM will develop this proposal with two Pilot Universities at the national level, which must meet the following requirements:

- Commitment of the Chancellor and will to focus on the training of professionals from a new perspective.
- To provide logistic support.
- To appoint permanent liaisons with officers of all the schools.

Conclusions of the Workshop on Methodology:

- The methodology was considered appropriate and can be refined during its application.
- Its success will be closely linked to the political decision of university authorities.
- Since most of the teachers are not familiar with environmental problems and are not used to working in an inter-disciplinary fashion, it is necessary to carry out a training preparatory program, prior to beginning the proposed project.
- It is essential to establish a University Environmental Training Network to promote the exchange of experiences in university environmental education, exchange information permanently and foster environmental training in universities.

Conclusions of the Workshop on the Peruvian University Environmental Training Network:

- To establish a virtual Network, for the exchange of information and inquiries.
- To promote inter-disciplinary work inside and among universities
- To begin the work with a list of priority topics of the universities on the environment
- To promote the publication of a periodical newsletter.

Actions to be taken in 1999/2000:

- To prepare a list of priority environmental issues to be addressed by the Peruvian University Environmental Training Network.
- To work with the two Pilot universities. CONAM has already an agreement with the University of Piura, so that this center of studies can be the first Pilot University to include environment topics transversally.
- To organize three Forums on Universities and the Environment in the north, center and south of the country.

Information:

David Solano Cornejo
David @cinam.gob.pe
Tel. (51 1) 225 3070
Fax (51 1) 2255369

(Letter from the Editor, from page 1)

A workshop on inter-disciplinarity was organized in December by the Ministry of Science and Technology and sponsored by the Brazilian Ministry of the Environment, in San José dos Campos. This workshop brought together the main research and teaching groups and projected the principles of inter-disciplinarity towards a policy of environmental training from the perspective of sustainable development.

During these past months, the Environmental Training Network has published new texts and manuals that will serve to strengthen environmental education and training programs and the activities of the countries in the region .

The Network has also started two special projects: an Environmental Education and Training Project in the small island countries in the Caribbean; and a Pilot Community Training Project for the Conservation and Sustainable Management of Tropical Forests in Mexico.

The XII Meeting of the Forum of Ministers of the Environment of Latin America and the Caribbean will be held in Barba-

dos in March. There, the Environmental Training Network will be evaluated and the priorities for the future of this regional program will be defined.

The newsletter **Environmental Training** is now being published twice a year, in June and December. In order to offer our readers a more up-dated information of the on-going activities of Environmental Education and Training, we have opened the section Recent News in the Internet on the UNEP/ROLAC Network webpage: <http://www.rolac.unep.mx>). We invite our readers to visit us and subscribe free of charge to this information service, where, in addition to inquiring about recent news, the newsletters published by this program and the basic documents on this subject can be consulted.

We send all our readers and friends of **Environmental Training** our wishes for peace, health and happiness in the year 2000 and hope that the new millennium will enable us to build a more sustainable and fair, diverse and democratic, solidarian and creative world, for all the peoples and persons who live on this marvelous planet.

ACTIVITIES OF THE NATIONAL NETWORKS AND THE NETWORK'S REGIONAL PROGRAMME

ARGENTINA

2nd Latin American and Caribbean Gas and Electric Power Conference: Regional Realities and Outlooks for the 21st Century.

The Argentinian Oil and Gas Institute, the Society of Petroleum Engineers, Argentina Section, and the Regional Electric Power Integration Commission are organizing this Conference that will be held on March 27 to 29, 2000 in Punta el Este, Uruguay. Various subjects on the demand, reserves, production, storage, marketing, regulations, environmental impact and energy savings will be discussed. **Information:**

Instituto Argentino de Petróleo y del Gas
Maipú 645, 3er Piso
C1006ACG,
Buenos Aires, Argentina
Tel: (54 11) 4325 8008
Fax: 4393 5494
E-mail: congreso@iapg.org.ar

COLOMBIA

XVI Colombian Conference on Geography, Territory, Society and Conflict in Colombia.

The Colombian Geographers Society (ACOGÉ) invites all those interested to participate in this Conference to be held on August 16 to 20, 2000 in Santiago de Cali, Colombia. Please send your papers before January 31, 2000. **Information:**

Departamento de Geografía
Universidad del Valle
Tel: 321-2189
Fax: 333-4909, 333-1106
E-mail: dgeograf@mafalda.univalle.edu.co

COSTA RICA

XII Course: Ecology Principles for Sustainable Development

The Organization for Tropical Studies (OET) with the academic endorsement of the University of Costa Rica and the sponsorship of the U.S. Fish and Wildlife Service organizes the 12th course, addressed to Latin American professionals holding political, technical and manage-

ment positions, who affect decisions involving the conservation of natural resources and the quality of the environment in their countries. The course will take place from March 28 to April 8 of the year 2000 and the deadline for applications is January 14, 2000. **Information:**

José María Rodríguez
Programa de Política Ambiental
Organización para Estudios Tropicales
Fax: (506) 240-6883
E-mail: eddamb@ots.ac.cr

CUBA

2nd International Convention of Higher Education "University 2000"

The Ministry of Higher Education of the Republic of Cuba, with the sponsorship of the University of Havana, the University of Matanzas, the University of Pinar del Río, the Havana Agrarian University, and the Higher Polytechnic Institute "José Antonio Echeverría" convenes this meeting from February 7 to 11, 2000. The main purpose is to encourage joint strategies at the Latin America and the Caribbean level to face the major issues affecting sustainable development of university education. **Information:**

Dr. Rafael Vigoa Hernández
Secretario Ejecutivo
Universidad 2000
Website:
<http://www.universidad2000.cu>

II International Workshop on Environmental Training

The Environment and Natural Resources Center (CEMARNA) of the University of Pinar del Río invites you to this workshop to be held from February 9 to 11, 2000 within the framework of the 2nd International Convention of Higher Education University 2000. The purposes of the workshop are to discuss programs, projects and actions of university "environmentalization", exchange experiences on environmental training in its broadest terms and recommend

theoretical and practical solutions from the university perspective that will lead to sustainable development. **Information:**

Lic. José A. Jaula Botet, MSc.
Director del CEMARNA
Universidad de Pinar del Río
Av. José Martí 270
Pinar del Río, 20100, Cuna
Tel.: (53) (82) 5452
Fax (53) (82) 5813
E-mail: jaula@upr.edu.cu

V Conference on Ocean Sciences «Mar Cuba 2000»

The National Oceanography Committee announces this meeting to invite summon all those interested in the promotion and integration of marine scientific research into sustainable development. The Conference will be held from June 19 to 23, 2000 at the Palacio de las Convenciones in Havana. The deadline to submit abstracts is March 31, 2000. **Information:**

Comité Organizador MarCuba 2000
V Congreso de Ciencias del Mar
Comité Oceanográfico Nacional
Avenida 1ª y Calle 60
Playa, Ciudad de la Habana, Cuba
Tel.: (537) 23 60 01 al 06.
Fax: 24 114 42
E-mail: marcuba@cidea.cu.unep.net

IV National Organic Farming Meeting

The Organic Farming Group, the Cuban Agriculture and Forestry Technicians Association (ACTAF) in coordination with the Ministry of Agriculture and the National Small Farmers Association (ANAP) announce the IV National Organic Farming Meeting to be held in areas of EXPOXCUBA in Havana, from May 17 to 19, 2000. The deadline to receive abstracts is January 25, 2000 and their selection by the Organizing Committee will be notified as of February 25. **Information:**

Ing. Marta Pérez Pérez
Secretaría Ejecutiva
Grupo de Agricultura Orgánica -ACTAF
Apartado Postal 4029 C.P. 10400
Ciudad de La Habana, Cuba
Tel/Fax: (537)845387
E-mail: actaf@minag.gov.cu
Web site:
<http://www.foodfirst.org>

II International Meeting: Biodiversity and Tourism Biotur 2000

In order to celebrate the 508th anniversary of the first report on Cuban biodiversity and the consolidation of sustainable tourism in the third millennium, this meeting will be organized in Playa Esmeralda, Holguín, Cuba from October 26 to 30, 2000. The deadline for papers is September 14, 2000. **Information:**

Ing. Cosme Casals Corella
Presidente del Comité Científico
Apartado Postal 246
Holguín 80100, Cuba
Tel.: (53 24) 30-115
Fax: (53 24) 30-126

E-mail: del_sstt@mares.solmelia.cma.net

CHILE

Symposium Globalization and Development: Challenges for the Small Farmer

The International Production Systems Association will hold this first Symposium in Santiago de Chile, from November 27 to 29, 2000. The 4th Latin American Symposium on Research and Extension of Farming Systems will take place at the same time. The main topic will be the interaction between global and local processes, affecting the rural areas of the world and making a direct impact on the small farmers and their technical, social, economic and cultural behavior. Abstracts (optional) will be received up to February 29, 2000 and papers up to March 30, 2000. **Information:**

IFSA/IESA
Santiago, Chile
Tel.: (56 2) 236 4557
Fax: (56 2) 236 4558
E-mail: IFSA @rimisp2.cl
Web site:

http://www.rimisp.cl/fsa_iesa2000.html

ECUADOR

V International Course on Comprehensive Management of Coastal Areas

The National Coastal Resources Center (CENAREC) and the Coastal Resources Management Program (PMRC) are organizing this course whose purpose is to provide participants with the necessary practical skills to design and implement comprehensive plans of coastal area management. This will be a two-week course that will be held from January 17 to 28, 2000 in the city of Machala. **Information:**

Ing. Alejandro Chanaba Ruiz
CENAREC-ESPOL-MARITIMA
Campus Prosperina
Km. 30.5, via perimetral
Tel.: (5394) 269 464
Fax: (5394) 854 587
E-mail:

US VIRGIN ISLANDS

The Caribbean Natural Resources Institute (CANARI) offers the following courses:

Understanding and Managing Natural Resource Conflicts, to be held in Puerto Rico from April 17 to 19, and,

Skills and Methods for Participatory and Collaborative Resource Management that will take place in Trinidad on a date to be announced. On request, the Institute will also offer study and training trips *in situ* and seminars and courses in each country of the Caribbean region.

Information:

Caribbean Natural Resources Institute
New Dock Road, P.O. Box 383
Vieux Fort, St. Lucia
Tel.: (758) 454 6060
Fax: (758) 454 5188
E-mail: canari@candw.lc

MEXICO

Iberoamerican Seminar: Outlooks for the Environment and Development

The Interdisciplinary Center of Research and Studies on the Environment and Development of the National Polytechnic Institute (IPN), convenes this seminar where subjects related to Sustainable Development, Environmental Legislation, Environmental Management, Industry and the Environment, Environmental Crime, Environmental Education, and Environmental Research will be dealt with. The Seminar will be held from February 28 and 29, 2000 in the Unidad de Congresos Jaime Torres Bodet of the IPN.

Information:

M.Sc. Miguel Angel López Flores
Jefe Depto. de Vinculación y
Servicio Externo
CIEMAD
E-mail: seminar@resipn.mx

University Environment Program

The University Environment Program of the National University of Mexico offers,

inter alia, the following short courses to be held from February 11 to September 18:

- **Environmental education: how to teach environmental topics**
 - **Techniques for risk analysis**
 - **Native peoples: biodiversity and environmental policy**
 - **Climatic change**
 - **Environmental trainers training workshop**
 - **Ecotourism**
 - **Ecology and forest resources management**
- Information:**

PUMA
Coordinación de la Investigación Científica
Circuito Exterior, Ciudad Universitaria
Tel.: (52) 5622 4170
Fax: (52) 5606 1785
E-mail:
Web site: <http://www.unam.mx/puma>

PERU

XXIV Latin American Conference of Chemistry

The Peruvian Chemical Society, with the sponsorship of the Latin American Chemistry Societies Federation, invites you to this conference that will take place from October 15 to 19, 2000. Scientific activities will include a symposium, among others, of environment chemistry. **Information:**

Sociedad Química del Perú
Av. Nicolás Araníbar 696
Santa Beatriz, Lima 1, Perú
Tel.: (51) 1 472 3925
Fax: (51) 265 9049
E-mail: ngamboia@pucp.edu.pe

VENEZUELA

III Inter-American Environmental Education Conference: Peoples and Roads Towards Sustainable Development" (First communiqué)

The Ministry of the Environment and Renewable Natural Resources, the Ministry of Education, the Ministry of Foreign Affairs, the National Higher Education and Environment Network, non-governmental organizations, public and private companies and FUNDAMBIENTE, organize this III Conference to follow-up the conferences held in Mexico

on 1992 and 1997. The purpose is to foster a regional environment education project through the cooperation among countries and the consolidation of the Environment Educators Network in the Ibero-American

context . It will take place in Caracas, in July, 2000. **Information:**

Ministerio del Ambiente y de los Recursos Naturales Renovables
Dirección General Sectorial de

Educación Ambiental y Participación Comunitaria
Centro Simón Bolívar, Torre Sur, Piso 18
El Silencio
Caracas, 1010, Venezuela
Tel.: (58) 408 1258. Fax: 483 23376
E-mail: cieduamb@marnr.gov.ve

SYSTEM OF POSTGRADUATE PROGRAMMES

ARGENTINA

Specialization and Masters Course on Sustainable Development 2000-2002

The Latin American Environment Sciences Forum (FLACAM) and the National University of Lanús (UNLa) invites university graduates to enroll in postgraduate courses whose purposes are higher training in the area of environment sciences and training to solve environmental and development problems. **Information:**

Geógr. Lucia Pesci
Calle 57, 393
1900 – La Plata, Argentina
Tel.: (54) 221 425-6556
Fax: 221 425-7482
E-mail: flacam@stlink.com
Web site:
www.flacam-red.com

Masters Course in Environment Engineering

The Cordoba Regional School, School of Fourth Academic Level of the National Technological University offers this Masters course. One of its general purposes is to discuss environment subjects including the contributions of disciplines. It is also oriented to problem-solving from the engineering approach. The Masters course is composed of the following four courses divided into 18 modules: environmental issues, environment description, assessment and diagnosis; environmental remediation and environmental management. **Information:**

Sergio Nirich Ronga
Director Académico
Maestría e, Ingeniería Ambiental
Maestro Marcelo López esq.

Cruz Roja Argentina
Ciudad Universitaria
CC 36, suc. 16 (5016)
Córdoba, Argentina
Tel.: (051) 697 849
Fax: 681 823

E-mail: posgrado@sa.frc.utn.edu.ar
Web site:
<http://www.frc.utn>

Information:

Sugey Urena
Tel.: 286-64464
Fax: 225-1942
E-mail: elap-cad@uci.ac.cr

Non-Resident Masters Course on Geographical Information Systems

The Geoprocessing and Water Resources Consultants Group (COGMARHSA) offers the first Masters Course (June 2000) for Latin America of this UNIGIS network. UNIGIS courses meet the needs of professional development and are suited for labor training. Their program is composed of one to two years in GIS technology and all courses are given via the Internet. **Information:**

COGMARHSA
Apartado Postal 2496-3000
Heredia, Costa Rica
Tel.: (506) 388-0613
E-mail: cogmarhs@racsa.co.cr
Web site:
<http://www.econatur.com/cogmarhsa>

COLOMBIA

Specialization Course in Environmental Management

The Western University Corporation offers the sixth promotion of its specialization program whose purpose is to train experts who can work in an interdisciplinary fashion in the diagnosis, prognosis, analysis and management of the problems that the country's social and economic development produces in the field of the environment and natural resources. **Information:**

Corporación Universitaria
Autónoma de Occidente
Escuela de Postgrados
PBX: 318 8000; ext. 11 650
E-mail: alcampo@cuaao.edu.co

COSTA RICA

The University for International Cooperation (UCI) in San José Costa Rica, announces the opening of its Masters Programs:

- **Environmental legislation**
- **Project Management**
- **Agrobusiness and Environmental Management**
- **Sustainable Tourism Management**

Course on the Design of Inventories of Natural Resources

The Tropical Research and Teaching Agronomic Center (CATIE) in collaboration with IUFRO and the U.S. Forest Service, will hold, from February 21 to 25, 2000 in the headquarters of the former (Turrialba, Costa Rica) a course geared to provide practical and operational tools to design inventories of forests and other renewable natural resources. It will be given by experts from Germany and the United States. **Information:**

Web site:
<http://www.catie.ac.cr/posgrado/cursos>

CATIE Educational Programs

The Tropical Agronomic Research and Teaching Center, an institution that conducts, promotes and encourages research and teaching, training and technical cooperation in farming production and renewable natural resources for over 25 years, offers Masters Programs in ecological agriculture. Tropical agroforest systems; management and conservation of tropical forests and biodiversity and environmental economy. Doctoral courses in tropical forest sciences and tropical agriculture, as well as various training courses are also available.

Information:

M.Sc. Emilio Mora Guzmán
Jefe de Admisiones, Escuela de Postgrado
Código Postal 7170, Turrialba, Costa Rica
Tel.: (506) 556 1016 / 556 1533
E-Mail: posgrado@catie.ac.cr
Web site:
<http://www.catie.ac.cr>

Short courses on natural resource conservation and management 2000

The University for Peace (UPAZ), an international institution established in 1990 by the United Nations General Assembly, offers the following courses for the year 2000: analysis and design of forest and natural resources policies for Latin America; agriculture, renewable natural resources and sustainable development; ecotourism in tropical countries and the promotion of peace; services provided by forest lands: their evaluation, quantification and inclusion in national policies, management of buffer zones in protected areas and management of social conflicts.

Information:

Area de Recursos Naturales y
Promoción de la Paz
Apartado 138-6100
Ciudad Colón, Costa Rica C.A.
Tel.: (506) 249-1072. Fax: 249-1929
E-mail: upazrena@sol.racsa.co.cr

HONDURAS

ICSED Courses on GRENA's Natural and Environmental Resource Management

GRENA's is a cycle of intensive, participatory and practical courses, designed to promote a comprehensive but summarized approach of the main theoretical, methodological and practical components for the better utilization of natural resources in a context of produc-

tive efficiency, economic profitability, social equality and sustain-ability. Each course requires full-time study and is given over a 10 to 11 period-day, by highly qualified international professionals.

Information:

Exequiel González P.
Centro Interamericano para el
Desarrollo de Ecosistemas Sustentables
Tel.: (562) 202 1137. Fax: 202 1142
E-mail: centro@icsed.org

MEXICO

Masters Course in Sustainable Tourism Sciences

The School of Tourism of the University of Nayarit (UAN) with the support of UNEP and the Foundation for International Training Centre for a Sustainable Future of Canada, invites those interested to enroll in this postgraduate course. One of its purposes is to promote the equitable and sustained utilization of natural, historic and cultural resources, and in addition to develop research projects linked to the needs of rural development through eco-tourism projects that will help to improve the quality of life. The Masters Course will begin on **February 28**. The UAN offers 5 academic scholarships to Latin American students.

Information:

Facultad de Turismo
Universidad Autónoma de Nayarit
Ciudad de la Cultura Amado Nervo
Tepic, Nayarit
Telfax: (52 32) 130231
E-mail: marpa@nayar.uan.mx

Masters Course on non-Resident Environmental Education

The Department of Environmental Sciences of the University Biological and Farming Sciences Center of the University of Guadalajara offers this post-graduate course. Its purposes are to integrate knowledge and skills to interpret complex systems and reformulate educational strategies responding to various environmental contexts in a critical and creative fashion. **Information:**

Centro Universitario de Ciencias
Biológicas y Agropecuarias
M. en C. Víctor Bedoy Velázquez /
E-mail: vbedoy@cucba.udg.mx
Telefax: (52 3) 682 0072 / 682 0120

Masters Course on the Environment and Comprehensive Development

The Inter-disciplinary Center of Research and Studies on the Environment and Development (CIEMAD) of the National Polytechnic Institute announces a Masters Course organized in three sections: environment, development and methodology of science. The program provides financial support to students through different types of scholarships, academic incentives and medical services. It also offers the possibility to join one of the Center's lines of research for producing a thesis. **Information:**

CIEMAD
Av. Miguel Othón de Mendizábal 85
Industrial Vallejo, 07700, D.F.
Tel.: (52) 5586 9370 / 5586 0838
E-mail: ciemad@vmredipn.mx

PANAMA

Masters Course on Environmental Management Sociology

The School of Humanities of the University of Panama, through its Department of Sociology, offers this Masters Course. Its purpose is to achieve comprehensive, scientific, technological and conceptual training and the development of leadership skills and research, teaching, planning, implementation, supervision, monitoring and strategic assessment of social and environmental issues abilities. **Information:**

Marco A. Gandásegui H.
Apartado 87 - 1918
Panama 7. Rep. De Panamá
Tel.: 223 0028. Fax: 269 2032
E-mail: calaja@pty.com

PERU

Masters Course on Environmental Management and Development

The Andean Regional Studies Center Bartolomé de las Casas, through the Andean Post-graduate School announces its Masters Program. At the end of the course, participants will be able to include environmental management into project formulation and implementation; assess the environmental impact of investment projects within pluri-disciplinary teams and strategies for sustainable land use planning. **Information:**

Centro Bartolomé de las Casas
Escuela Andina de Posgrado
Apartado 477, Av. Tillumayo 465
Cusco, Peru
Tel.: (51 84) 233 472. Fax: (51 84) 241 319
E-mail: gad@apu.cbc.org.pe

TIME OF SUSTAINABILITY

Enrique Leff

The transit towards a new millennium is a matter of time, chronological time that is giving symbolic force and acquiring “change value”, thus precipitating historical times and fostering a reflection on the trends and meaning of a world that is overflowing its growth inertia—the saturation and limits of modernity—towards an uncertain future. This turn of the century marks a point of inflection in history, a history that is projected towards a hazy horizon through which we tread deciphering the marks left by culture in nature to build a sustainable development.

There are several events in recent history that announces a change of era: the end of the great modernity projects and the emergence of new civilizing utopia. The most eloquent sign of this historical shift is the environmental crises and social reconstruction from nature’s potential and cultural meanings. Sustainable development announces the limits of economic rationality, proclaiming the values of life, social justice, and commitment with future generations.

The grandiloquent narratives of modernity ignore time that determines and limits the progression of actual trends of environmental degradation and their projections into the future. Modernization takes place in the permanence of universal, timeless and transcendental values; in an undefined and uncertain time, denied by the prevalent and dominant paradigms of knowledge. In the “end of history” transit towards sustainability appears as the commodification of nature. However, it is this modernizing rationality that led to economic externalities and accelerated negative growth synergies that in turn led to unsustainability: ecological imbalances, resource shortages, extreme poverty, ecological risk, and society’s vulnerability.

Unsustainability of life in the planet is the symptom of a *crisis of civilization*—of the very foundations of society’s project of modernity. Thus, the construction of a sustainable future cannot rest upon false certainties of the market and of technology; it cannot even rely on ecology to find a balance between economic growth and the preservation of the environment. In the crossroads to the new millennium, the path towards a sustainable development is being opened by the renewal of cultural identities, philosophic thought and theoretical production, based on a critical judgment of the foundations of modernity, to generate conceptual strategies for social reconstruction. The emergence of environmental complexity is generating positive synergies that open up the way to a sustainable future based upon a new social rationality.

This means a need to transcend the idea of historical transcendence that lies in economic reason as a process of dialectical emancipation from necessity, based on a scientific and instrumental rationality that mobilizes the development of productive forces as a natural evolution towards higher stages of development. This historical teleology would carry in it the satisfaction of basic needs and access to freedom, as well as the emancipation of “primitive societies”, as a result of the clairvoyance of knowledge and the de-alienation of the pre-

modern world by the development of science and technology.

The crisis of the environment is a crisis of ontological, epistemological and ethical premises in which modernity was founded, denying the laws of limits of nature and culture and the productivity of ecological and symbolic processes in a homogenizing world that denies the potential of heterogeneity and the value of diversity. The purpose of sustainability implies the reconstruction of the world from diverse cultures and civilization projects that have been built and sedimented in history. Environmental rationality is a utopia that forges new existential meanings, entailing a re-signification of history, from the limits of human condition and the potentials of nature and culture.

Transit towards the third millennium is a turn of times in new directions. Extrapolating the natural and social processes generated by the prevailing economic and instrumental rationality cannot attain sustainability. It will not be achieved as a transcendental solution based on an environmental consciousness derived from the dialectics of nature (Bookchin, 1990) but from the social construction of an environmental rationality (Leff, 1995, 1999).

Historic times are forged in the maturing of ancestral times that announce unprecedented times; of times subjected, that are not manifested in the succession of chronological times, but transgress the provisions of history and the projection towards the future of present reality. We have seen the expression of the limits of modernity, without having to wait for the turn of the century. Thus, in the sixties (1968 as a more accurate marking) we witnessed with student movements throughout the world the irruption of an emancipating process of liberty and democracy, triggered by claims of difference, otherness, diversity, autonomy and gender, fostering the expression of citizenship and human rights.

1989 marks the end of the cold war and real socialism, and the provisional victory of economic globalization under the hegemony of the market. 1992 started a new era of “sustainable development”, coinciding with the 500 years of the conquest of the indigenous peoples and the domination of nature. These irruptions in history are the manifestations of the internal forces repressed by power structures, that are trying to shatter the yoke of history to open new paths in the becoming of time and Being, announcing new forms of identity, inhabitability, co-existence and solidarity.

Cyclic times order rituals; they are the dance of subjugated forces that open up processes suspended in time. If we have learned something from projection methods and prospecting models, that is that history keeps its innovations in secret; contingencies and uncertainties destroy all predictions built on teleological principles and scientific laws, on the inertia of processes built on the basis of nature mastered by technology and society controlled by the State.

From this closed history we are witnessing the emergence of the unheard, as the unceasing renewal of identities that

from the densities of their past—of the ways in which collective beings have inhabited the world and transformed nature—, have intertwined in the emerging environmental complexity that is opening up new civilizatory paths from the limits and potentials of nature and culture.

The environmental crisis has been accompanied by the irruption of environmental complexity emerging from the limits of instrumentality of knowledge and the fractionating of the real. Environmental degradation accelerated the arrow of time as the inexorable path towards the entropic death of the planet, revealing the anti natural character of economic rationality; it discloses the fatal strategies of unlimited economic growth that expresses its uncontrollably destructive nature in its ineluctable inertia towards catastrophe; environmental complexity heralds the possibility of building another social rationality, based on the self organization of matter, the productivity of nature and creativity of peoples.

The crossroad in the transit from modernity to post modernity is the encounter of diverse times, the cycles of nature—of life and evolution, emergence and novelty—, of technological changes and historic transformations. Internal times—those of truth and meaning—find their place in this historical process marked by the finitude of existence and eternity of times that crystallize in ethnic diversity and in heterogeneity of cultures. These internal and external times are intertwining in a kaleidoscope of life worlds, reconfiguring existential meanings through new codes of ethics, values and identities.

In these convulsive times that forebode the death of life due to the hypertrophy of the real, the victory of hyperreality and the domination of the world, new identities emerge, new civilizing meanings moved by new social actors. Beyond the self-conscious subject of science, environmental knowledge (Leff, 1998) poses the reconstruction of subjectivity and subjects of history. From the difference in Being and otherness of individuals, from the diversity of collective subjects and traditions of original peoples, new forms of identities and positioning in the world are taking place. From the most profound meanings of people's existence, ethnic identities are being recast by new social interests and human rights that mobilize historical changes, oriented by the values of autonomy, cultural diversity, political plurality and participative democracy.

Far from perceiving the stabilization of the environmental balance (population, economy and technology growth) at the end of this century, we are witnessing is the acceleration of negative synergies and perverse poverty circles, social inequalities and environmental degradation. Today we not only perceive radical signs of environmental collapse (droughts, and forest fires attributed to "El Niño" and "La Niña", cyclones and hurricanes that have scourged ecosystems and peoples in tropical areas). We are also subject to unprecedented biological risks and economic crises, while the feasibility of disaccelerating economic growth and reducing the production of greenhouse gases remain doubtful.

In contrast to those processes of ecosocial decay, environmental rationality unwinds the processes and principles where sustainability is rooted. The transition towards sustainability convulses the times where accelerating inertias of established rationalities cross, triggering new processes to develop an ecotechnological potential for sustainable

development, forging new identities constituting new social actors, and generating institutional changes, moved by new values and rationalities.

A new social ethic based on the recognition and respect for otherness, for diversity, and difference is generating a dialogue and consensus policy of co-existence and solidarity. But in a time when humanist and socialist ideologies are tumbling down, social and economic differences have been growing wider, creating an abyss that leads to a loss of meaning of life. In despair, social subjects become re-rooted and re-affirmed in the values of individualism and competition, status and growing distinction. Thus difference is not conceived as an ethical principle for the recognition of the other but as distance propitiating exploitation, exclusion and racism, as retraction from alterity and refuge in exclusionist fundamentalism and intolerance.

Sustainability reconsiders the question of time and Being from the questioning of the ontology and epistemology that have forged our understanding of the world that have derived in forms of domination of nature with modern scientific, technological and economic rationalities. At the same time, the quest for sustainability opens up the search for the potentials of the real, valuing beings from cultural diversity, opening new pathways for the re-appropriation of nature and recreation of life worlds; configuring new temporalities and identities that support and assign meaning to a sustainable future. The melting pot of sustainability is the encounter of the times of entropic degradation, of ecological cycles and economic crises, of technological innovation and institutional changes, with the production and assimilation of new paradigms of knowledge, and changes of behavior that mobilize the construction for a new environmental rationality.

Beyond the possibility of accessing a state of economic-ecological balance through a "rational management of the environment" the question of sustainability is also an inquiry and a research about the meanings of existence. Sustainability restates the relationship between cultural signification and the potentials of nature. Sustainability is built upon a process of cultural appropriation of nature by different ethnic styles and diverse projects for the productive management of the planet's biological wealth. Sustainability is based on the planet's life capacity and on this unique neguentropic phenomenon, photosynthesis—where the Sun's radiant energy is transformed into biomass— supported by the complexity and stability of ecological systems.

Sustainability is thus the articulation of cosmic times with global processes that involve the diversity of local environments and rationalities. Sustainability encounters the entropic processes that govern the physical and thermodynamic processes, by recognizing and enhancing those neguentropic processes that make planet earth unique, where life feeds biologic evolution and ecological productivity. What determines sustainability is not an entropic process that after the big bang governs the dead-end of the universe through the "arrow of time". The life span of the universe and universal laws overflows the temporal horizon where the interests of our life-worlds and transgenerational equity are inscribed. What interest us are those times in which the present forms of domination and exploitation of nature are reflected; times that are accelerating the entropic death of the planet.

Time is the flow of phenomena and events, but it is also the limit that signifies the finitude of existence, that gives meaning to life and real processes (entropic and negentropic; cultural and symbolic order). If contingency replaces determinism with recognition of uncertainty as intrinsic to the real and to knowledge, this does not supercede the ineluctability of entropic degradation processes—the law of limits that signifies man’s existence— that today poses the question of the reconstruction of the economy for the planet’s survival. The actuality we are living today is not only the emergence of new facts as the result of the “natural” evolution process that has transformed the biological into the symbolic, that has evolved from *Homo sapiens* to *Homo economicus* whose truth is recognized in its adaptation to the market laws. Actuality is the encounter of historic times, from the explosion of frozen traditions blocked by times of domination and repression, to hybridizing of various rationalities that have established different human forms of relating to nature. Sustainability is the survival of subjected times that confront today the acceleration of time through entropic degradation. Environmental complexity announces the emergence of new times that are conceived through reflecting on knowledge about things, the intervention of technology in the essence of life and the merchandising of nature.

It is in this sense that Morin and Kern (1993:185) ask us:

Not to forget that, what ultimately constitutes the self originality in the XX century’s planetary era, is the constitution of a complex planetary space-time where all societies living at the same time, live in different times: archaic time, rural time, industrial time, post industrial time. This should make us leave behind the idea that from now on we must align all societies in that faster time, chronometrical time, Western time. This should lead us to live the complementarity of the various times, to stop the invasion of chronometrical time, to disaccelerate Western time.

Today, history is re-defining the limits of modern times, in the re-emergence of old histories and the emancipation of meanings repressed by a long history of conquest and domination, subordination and holocaust. These ancestral stories, that in their quietness seem to have lost their memories, are awakening to an actuality that gives their traditions and identities new meanings, opening up new paths in the flow of history.

This disquieting quietness—as warned by Heidegger—is a form of permanence in time:

This quietness of events is not an absence from history, but a basic form of its presence. What is generally known as past, and what we first represent as such, is almost always only the “actuality” of a past moment (...) what always belongs to history, but is not precisely history. The mere past does not deplete what was. It is still present, and its form of being is a peculiar quietness of events, whose form can only be determined from what happens. Quietness is just a movement that stops in itself, and frequently that is even more disquieting than the event itself (Heidegger, 1975:44,45).

Today this quietness is unfreezing history; its waters are fertilizing new fields of Being which are flowing towards oceans whose tides are opening new horizons in time. It is not just the

crosscrossing of objective times in history, of differentiated historicity of the real, or the synergetic encounter of processes leading to the environmental catastrophes.

The emergence of new times is a historic mutation where the transgenic technologization of life and the merchandising of capitalized nature are being articulated; the hybridization of the real, where physical and biological processes, technological and symbolic order converge; it is the actualization of times lived in new life worlds.

The hybridization of epistemological, ontological and phenomenological processes in environmental complexity is something new and very different from the evolutive, cybernetic and transcendental vision of history. Man, by his willingness to know and appropriate the world, has changed the laws of the real—its ontologies and epistemologies—, deviating the course of events and generating new meanings and beings in the world. This is what is announced in this turn of millennium, more than the acceleration of the rotation of the planet over its old and wasted technological and economic axes.

Sustainability is projected towards a future, mobilized by a new ethic of transgenerational solidarity and commitment with future generations, which reflects a conservation instinct and a generalized social demand for survival. However, this sustainability is not guaranteed by the economic value that can be allocated to nature, not by that restricted temporality that can be translated into economic discount rates. Sustainability will not be the result of internalizing an environmental rationality in the clockwork of economic cycles.

Sustainability emerges from the very limits of a world, led by the search of unity in diversity, subject to the yoke of an absolute idea, of technologic rationality and market globalization. It is the rupture of a project that wanted to subject diversity to a forced unification of the real (from monotheism to a global market). It is an emancipatory project to liberate the potentials of biologic and cultural diversity. It is the unchaining of a technologized world to allow being quieted by the objectivation of a calculated world to be expressed.

The environmental crises is the point of confluence of saturation lines of unidimensional development where their inertia are locked and overflow in ecological degradation: it is also the emergence of environmental complexity that untangles the potentials of the real and knowledge (Leff, 2000).

The environment is the Other from dominant economic and technological rationalities, opening towards infinite and alterity, transcending the environment as externality and exteriority of an eco-destructive and self-destructive economic center. Sustainability is rooted in times and beings; in times that, nested in culture, transcend the barriers of homogenizing hegemony to give way to heterogeneity and diversity. It is the re-opening of history and existential meanings, where the times of history cross and hybrid identities are skimmed; where natural history, technology and symbolic order are linked; where sciences, transformed by environmental knowledge are articulated. Environmental complexity is the melting pot where past, unitary and measurable times collide together, irradiating complexity towards a future pulled by difference and utopia, mobilized by otherness and infinite (Levinas 1977).

Sustainability announces the birth of what “is yet to be”, emerging from the potential of the real, the channeling of the “possible” and the forging of utopia. This transcendence from present reality is neither the projection nor the development of existing reality, but the creation of something new, from the re-emergence of identities that preserve the marks of their diverse histories and become re-rooted in a territory where new civilizational meanings are supported. Sustainability finds its reason and motivation, not in the objective laws of nature and the market, but in thinking and knowing; in meanings that constitute the identities that mobilize the re-construction of the world.

In the interdependent world of economic globalization, dominated by a unipolar and monolithic vision, each nation and each population are risking their feasibility and survival. Transit towards democracy and sustainability imply a new concept and new forms of world appropriation; new existential meanings are defined for each individual and each community, tracing new lines of forces that are changing power relations and forging new civilizing projects.

Economic globalization is pretended to have been established forever, bringing about the end of ideologies and history, the solution of conflicts with the unification of tamed will powers and the dilution of thinking by absolutist automation. Nonetheless, the new Millennium will not be a continuation and expansion of the current order. This world is braking away from the possible projection of the present reality towards a *future without future*. What emerges from that limit is well beyond an ecological awareness capable of re-ordering this fragmented, agonic and alienated world guided by the mission of a generalized ecology to solve the contradictions and conflicts of the present world.

The environmental crises announce the mutation of the meanings of life. *Death, and transfiguration*. Creation of new meanings to re-build history from the very limits of modernity.

Concerns over the sustainability of the planet and mankind leads to question the very foundations of our being in the world whose first sediments are in the forge of Western, Judeo Christian civilization, from the ethics and philosophy of old Greece, to modern ontology and epistemology. It is a new inquiry on Being that questions a reality coined by the logic and grammar with which we have built this world under the design of money as symbol of equality, exchange value and measure of all things. This is why the problem of sustainability not only refers to a questioning of modernity, but emerges as a real crisis of civilization, that opens a transformation of historic existence.

Complexity accompanies sustainability in the conjunction of heterogeneous times that intertwine in the construction of the real. The concept of environmental complexity goes to the encounter of the ecological, technologic, and social processes as the articulation of the heterogeneous in the multiplicity of

nature’s phenomena, symbolic formations, social rationalities and thought categories.

Temporality is the being of the real and the essence of things. The change of era is a historic mutation: change and transformation are no longer accidents, but the essence of or time of genetic mutations, systemic emergency and social change. Change is what must become constant, breaking apart from eternal recurrence to sameness and the closure of history set by globalizing economic rationality. Time, today, is not defined by constant presence of past events, but by the mobilization of processes and beings. The real and the symbolic burst in the limits of an unsustainable world, re-opening the potentials of history.

The unifying project of the world is dying: monotheism, the absolute idea, and the unity of science and globalizing market. History is opening towards a re-signification of being, from the limit of unsustainable reason, towards the potential of nature and the meanings of culture.

Epilogue

In the transit towards sustainability what is at stake is Ernesto Sabato’s proposal:

Therefore I propose, that with the severity of the final words of life, we embrace each other in a commitment, let us go out to open spaces, let us risk ourselves for the sake of others, let us wait with him who extends his arms for a new wave of history to lift us. Perhaps it is already doing it, silently and underground, as the sprouts that beat under the winter soils (Sabato 1999, 214).

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ACTIVITIES OUTSIDE THE REGION

CANADA

The Global Community Organization located in Guelph, Ontario, Canada is organizing the *World Congress on Managing and Measuring Sustainable Development* to be held on August 17-22, 2000. The Conference's objective is to find the appropriate solutions for the Planet's sustainability in the new millennium through new concepts and value systems, a global ethics and a vision for the World in the year 2024. **For more information contact:**

The Global Community
<http://members.home.net/gdu99four>

ISRAEL

The Galilee College is the leading institute in Israel that trains Senior Management developing countries. Since 1987, numerous professionals have graduated in Environmental Planning and Management. Application requirements are: university degree, work experience in the area and English fluency (courses in Spanish are taught only if the correct number of candidates join form a group). Candidates admitted to the program

receive an academic scholarship, which covers study expenses. Candidates must pay for their own travel expenses and stay throughout the duration of the program. .

For more information contact:

Rosana Resnik
Director
Department of Latin America
Galilee College Israel
E-Mail: rresnik@galicol.ac.il
www.galicol.ac.il

SPAIN

Master's in Environmental Management and Strategies

The University of Valencia offers this postgraduate degree to provide theoretical and practical formation on human environmental conservation, restoration and improvement preventive strategy development and policy management to form public and entrepreneurial environmental management experts. **For more information contact:**

Instituto Mediterráneo para el Desarrollo Sostenible
C/Polo y Peryolón 2-24
46021, Valencia, Spain
Telfax: (96) 361 0604
Web sites:

www.grupimedes.com
www.adeit.uv.es

University Extension Courses – distance education

The International University Studies Center together with the Cadiz university offers the following distance education courses: Environmental Management; Waste Management and Treatment; Fauna and Natural Space Management and Natural Resources Management. **For more information contact:**

Sara Mas
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International Meeting of Experts on Environmental Education

The UNESCO and the Xunta de Galicia, Spain are organizing a meeting of experts on environmental education to discuss «a new an effective way for environmental education» targeting the new century's challenges. Suggested dates and location are: November 20-24 in Santiago de Compostela

INFORMATION NOTE

The **Environmental Training** bulletin has a monthly supplement called *Recent News on Environmental Training* available on UNEP/ROLAC's webpage:

<http://www.rolac.unep.mx/educamb/esp/noticias/>

In 2000, **Environmental Training** will also be available on internet:

<http://www.rolac.unep.mx/educamb/esp/>

Send in a request to access the bulletin **Environmental Training** free of charge to educamb@rolac.unep.mx with yor name, job title, institution, address and e-mail.

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The logotype of *Environmental Training* combines two prehispanic Mexican seals and a character from the post-Conquers Codex Mendoza.

The logotype embodies a meaning of communication and environment, based on the following symbols: the flower seal signifies vegetation and crops and is related to water as shown by the presence of wavy lines. The bird is associated with life in the air and finally, the character with the glyphs represents the communication of thought, traditions and teaching.