Connect

UNESCO-UNEP ENVIRONMENTAL EDUCATION NEWSLETTER

Vol. XII, No 3, September 1987

MOSCOW '87

Unesco-UNEP International Congress on Environmental Education and Training,

(USSR, 17-21 August 1987)

Mr. A. M. M'Bow, Unesco's Director General, sounded notes of both warning and hope in his opening address to the International Congress on Environmental Education and Training, organized jointly in Moscow, USSR, by Unesco and UNEP, ten years after "Tbilisi '77" (the world's first Intergovernmental Conference on Environmental Education, held in Tbilisi, USSR, October 1977).

Speaking before some 300 participants and observers from 80 countries, including experts and representatives of 15 international and national nongovernmental organizations, Mr. M'Bow set out a list of serious problems: "Over 25,000 plant species and more than 1,000 animal species are threatened with extinction. The countries of the Sahel are confronted by the encroaching desert... The atmosphere itself has not been spared — — different chemical and radioactive products are creating disturbances which could have serious repercussions."

The Director-General went on, however, to share his hope that in "pleading for more harmony in the world", greater international cooperation in solving problems which transcend national boundaries would lead to "the wisdom of every individual's respect for other people and for the environment which they share". Such an ethic, Mr. M'Bow concluded, "would be the result of the environmental education and training" which was the goal of the Moscow Congress, teaching people "to show self-restraint, to strive for the preservation of peace and care for the environment on the basis of maintaining the ecological balance of the biosphere, so that they will manage to use, wisely and humbly, the enormous potential offered by modern technology."

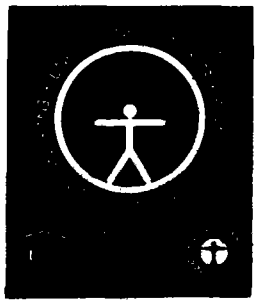
The Congress's opening session was chaired by Mr. G.A. Yagodin, the Soviet Union's Minister of Higher, Secondary and Specialized Education. He expressed the greetings of the host country's Council of Ministers to the participants and called for an environmental ethic or code for each person "which forbids him to harm nature and promotes harmony with it". To make this code a reality, Mr.Yagodin continued, "people must have the knowledge to make environmentally sound decisions, to solve environmental problems and to know how to avoid undesirable consequences". In this connection he stressed the critical importance of environmental education in general and professional training in particular. He concluded with a message from the USSR Council of Ministers which contained these words: "Environmental education and training have an important role to play in the building up of civic attitudes and strengthening of those human values which constitute our common heritage. /We must/unite our efforts in the struggle for peace in a world free from the threat of nuclear war and violence."

In his address to the opening session of the Congress Mr. William H. Mansfield III, Deputy Executive Director of the United Nations Environment Programme (UNEP), began by pointing to the fact that the words "economy" and "ecology" have both come down to us from the single ancient Greek term for community, **"oikos."** He reminded participants that the original unity of the two concepts had been lost in the modern world. Now economics is something you worry about when you're in trouble. Ecology is something you worry about when everything else is in fairly good shape."

Noting that this dichotomy was "a tragedy for the planet", Mr. Mansfield, too, stressed that environmental education (EE) was essential in building an awareness vital for the future of the earth. UNEP's Deputy Executive Director in turn called for practical work at the grass-roots level and stated that in developing techniques and materials and in curriculum development, to complement UNEP's expertise in the field of environment, "we must look for the continuing leadership and expertise that Unesco can offer in the field of education". Previously, Mr. Mansfield joined Mr. M'Bow in declaring the Unesco-UNEP International EE Programme (IEEP) as "the major vehicle for promoting environmental education at the international level" and in urging its continuation and enhancement.

As an indication of the world-wide representation of its participants, the Moscow Congress concluded the opening plenary session by electing Mr. N. Egorov, Deputy Minister of Higher and Secondary Specialized Education (USSR), as its president, and as its vice-presidents, Mr. Surna T. Djajadinigrat, Deputy Assistant Minister of Population and Environment (Indonesia); Mr. Mohamed Idri, Cabinet Chief, Ministry of Education (Algeria); Mr. Victor Johnson, Professor of Education (Sierra Leone); Mr. F. Martinez Salcedo, Director-General of the Environment (Spain); and Mrs. Fanny Parilli, Director of Environmental Education (Venezuela). Mr. John Smyth, Chairman of the Scottish Environmental Education Council (United Kingdom) was elected as the rapporteur of the plenary sessions. In addition to its plenaries, the Congress was organized into three commissions and five symposia (see reports below). (The main output of the Congress, namely, the "Strategy for Environment Education and Training for the 1990s", is a 28-page document which does not appear here. It is being readied for publication and extensive dissemination.)

Tbilisi plus Ten



Ten years after the ministerial-level Intergovernmental Congress held in Tbilisi, Georgia (USSR, 1977), Unesco and UNEP again jointly organized the International Congress on Environmental Education and Training, held in Moscow (USSR), 17-21 August 1987. The Programme included: a review of progress and trends in EE since the Tbilisi Conference; the state of the environment and its educational and training implications; relations between intergovernmental environmental-scientific programmes and EE and training; presentation of a draft international strategy for EE and training through the 1990s.

Three commissions considered: (1) environmental education and training of teaching personnel for school and out-of-school activities, and priorities for their development in the 1990s; (2) environmental education and training in general university education and priorities for their development in the 1990s; and (3) specialized environmental training and priorities for its development in the 1990s.

Five symposia considered: (1) international understanding and environmental problems —the role of EE; (2) environmental education and training— their contribution in the perspective of sustainable socio-economic development; (3) the role of the media and new communication systems in the promotion of environmental education and information; (4) the role of biosphere reserves and other protected areas in the dissemination of ecological knowledge and the training of ecological specialists; and (5) national experiences and the contribution of nongovernmental organizations in the development of environmental education and training.

Report of the Plenary Sessions

Papers were presented on: (1) *the state of the environment and its educational and training implications*, by Mr. Genady Golubev of UNEP; (2) *environmental education since the Tbilisi Conference and through the 1990s*, by Mr. A. Chiba of Unesco; (3) *the contribution of international scientific programmes to environmental education and training*, by Mr. S. Dumitrescu of Unesco; and (4) *the situation of environmental education and training in the USSR — practical response to the Tbilisi recommendations*, by Mr. N. Egorov, Soviet Deputy Minister of Higher Education. (These four papers will be included in a publication on the proceedings of the Moscow Congress, which is under preparation. Its availability will be announced in *Connect.*)

A discussion followed in which participants indicated the sort of changes that have taken place in environmental education and awareness in the ten years since the Tbilisi Conference. In Poland and the Ukraine, for instance, environmental economy has emerged as a new discipline for the education of decision makers. Several speakers from Canada, China and DPR of Korea, for instance, stressed the growing realization of the political implications of environmental education in this connection.

The need for greater international cooperation and effort, which was the subject of the third plenary session, was evident throughout the discussions. Representatives of the Council for Mutual Economic Assistance (CMEA) and of the IUCN reviewed their own international EE actions and pledged further efforts. On behalf of the North American Association for EE and the International Society for EE, a resolution was proposed that the decade of the 1990s be declared the "World Decade for Environmental Education". A most ambitious proposal from a participant was for a supreme council for the survival of humanity, representing all ethnic groups, to act as a consultative body in matters concerning the global or regional environment and perhaps to sit in judgement on its violation.

The importance of using youth movements in EE was underlined and the experience in this regard of the International Youth Federation for Environmental Studies and Conservation (IYF) was singled out. A specialist from Mexico stressed the need for joint development of training activities among countries and universities of the same region, for example, through the development of environmental training networks, such as the UNEP training network for Latin America and the Caribbean. The European Environmental Bureau was described as another example of regional cooperation.

Several other participants recounted their own experiences in regional cooperation, as for instance among universities in the Nordic countries and among Spain, Brazil and Portuguese-speaking countries of Africa. It was suggested that a flexible EE and training action plan, such as the one being developed at the Moscow Congress, should be accompanied by curriculum guidelines to enable countries to formulate their own national action plan for EE.

Report of Commission I (EE and the training of teaching personnel)

The terms of reference for Commission I consisted of examination and elaboration of three sections of the working document of the Congress (see *Connect*, June 1987, "Elements for an International EE and Training Action Plan for the 1990s"): (1) educational programmes and training materials; (2) training of personnel; and (3) technical and vocational education. (Chairman: Mr. Orlando Hall Rose (Costa Rica); Ms. A. Greenall (Australia) was Rapporteur.) A consensus was rapidly reached on the role, objectives and characteristics of EE, which were well defined and established at the Tbilisi Conference ten years before. The most fruitful aspect of the discussions focused on specific actions to be undertaken in the above three categories.

Educational programmes and teaching materials. Instead of individual countries or institutions attempting to "reinvent the wheel" in this regard, it was strongly recommended that the following measures be adopted: (a) creation of banks of EE curricula, textbooks, teaching aids and other such items at all levels, from the local to the international, in the form of resource centers, clearinghouses or documentation centres; (b) promotion of institutional networking for the purpose of mutual support and cooperation amongst institutions engaged in EE experiments, research and training; and (c) facilitation of the exchange of information through newsletters and journals as well as the dissemination of curricula guidelines, manuals and other exemplary items for the teacher.

With respect to the development of model or prototype curricula, it was suggested that closely related subjects, such as environment, health nutrition, population, development and peace and international understanding could be combined into one subject area rather than each treated as a separate curricular concern. Prototype curricula should contain flexibility or adaptability to specific situations, fostering the sense of people as part of and in harmony with nature and focusing on behaviour modification, habit formation and attitude development as more important than acquisition of information.

With regard to the development of new teaching aids, participants made special mention of the new communication technologies from audio-visual to the latest electronic development. Micro-environments, such as museums, zoos, exhibitions and other cultural centers, were deemed to be among the sites particularly useful for environmental education. Teacher-pupil collaboration in the preparation and use of environmental posters was pointed to as a contribution to the teaching-learning process.

Training of personnel. It was agreed that all teacher-training programmes should be designed for a maximum "multiplier" effect, that is, each training recipient should be viewed as a future trainer of other teachers in the principles, methodology and practice of environmental education. Experience in the field was considered of primary importance in the environmental training of teachers, since the vast majority are normally limited to the confines of the classroom. At least one participant urged that teachers also be trained in the arts and techniques of persuasion, so as to achieve results with their administrators regarding the introduction or promotion of EE in their institutions.

Report of Commission II (EE in General university education)

The work of Commission II touched upon the following points of the Congress working document: (1) access to information; (2) research and experimentation; (3) educating and informing the public; and (4) general university education. (Chairman: Mr. L. Bouguerra (Tunisia); Mr. A. Bahuet (France) was Rapporteur.)

Access to information. EE seems to be characterized simultaneously by an information explosion and a lack of specially targeted, high quality information. The creation of an international computerized information system seemed to the participants to be a way of solving this dilemma. Establishing such a service, however, should not exclude other means of communication, especially written materials. Use of existing institutional and technical resources and reinforcement of existing information networks were also urged. Similarly, reinforcement of local documentation centers was seen as a way to achieve a more balanced access to EE information and allow developing countries to play a more active role in the production of such information. Thus Unesco and UNEP should, as a matter of priority, jointly examine the requirement and methods of establishing an International Computerized Information Service for EE (ICISEE). All institutions active in this sphere would have free access to the service through switched networks or other effective means. The experience of INFOTERRA in this field is relevant.

Research and experimentation. Research into environmental values or sets of values as well as the modalities of treating these values in the field of education was recommended. It was also considered advisable to conduct research into the intellectual perceptions of various sectors of the population in order to target EE efforts more effectively. Lastly, it was thought necessary to develop research into formative evaluation methodology in EE.

Educating and informing the public. This should involve the use of teaching materials and "micro-environments" which are appropriate for arousing public awareness of the environment, such as ecomuseums, environment interpretation centers, parks, biological reserves, etc. During the elaboration of environmental messages, the diversified perceptions of the environment on the part of different social and economic groups of the population should be taken into account and the messages adapted accordingly.

The public of industrially developed countries should be environmentally informed not only about their own country but also about those of the developing world. Systematic cooperation between environmental experts and mass media personnel would promote dissemination of scientific results in the field of the environment among the general public. In the same sense, there is a need for EE in the initial and in-service training of personnel responsible for the distribution of various forms of information (journalists, librarians, TV and radio broadcasters, et al.).

General university education. The development of EE at the general university level requires a significant increase in efforts in the domain of training for specialists and educators who may play the role of "multipliers". To this end it is appropriate to organize retraining courses aimed at the teaching staff of various disciplines concerned with the environment, namely, economy, engineering, public health, etc. Similarly, university specialist exchanges should be promoted at the national and international levels and scholarship programmes be set up to facilitate such exchanges. The integration of the environmental dimension into the university context could be largely helped by programmes aimed at awareness-building in decision-makers and high-level university administrators.

The teaching of environmental subjects to students of various disciplines, as well as to teachers and specialists, should take particular account of the elements of an environmental ethic as well as general ecological concepts. In the process of developing educational programmes, it is also appropriate to keep in mind the essential role of urban and rural concerns. To achieve this, priority should be given to active teaching/learning methods and preparation of

appropriate manuals and techniques, such as games and simulations in the field of environment. It is also advisable to develop manuals and reference books adapted to the needs of the various university disciplines as well as encyclopedic dictionaries, thus simultaneously promoting wider dissemination of fundamental concepts of the environmental sciences and standardization of relevant terminology.

Report of Commission III (Specialised environmental training)

The focus for the work of Commission III was specialized environmental training at the university level and priorities for its development in the 1990s. Within the domain of specialized training, the draft Action Plan for the 1990s, which was being considered by the Congress as a whole, singled out five possible courses of action: (1) initial training for environmental specialists; (2) further or in-service training for professionals; (3) training through research; (4) development of suitable study programmes; and (5) strengthening of training capabilities. (Chairman: Mr. G. Francis (Canada); Mr. S. Krishnaswamy (India) was Rapporteur.)

There was lively discussion and as many as 49 participants intervened. All above courses of action, participants stated, should emphasize the interdisciplinary needs of environmental problems. Further, the educational objectives should provide not only the necessary knowledge and skill, but also create general environmental awareness and commitment. A diversity of views at the same time underlined the need for a flexible approach to specific problems of specialist training.

The chairman of the commission pointed out that environmental training for sustainable development should be considered as the main task of the training effort. Five alternative approaches to incorporation of environmental education and training into university-level institutions were suggested: (1) environmental training (ET) as an integral part of all professional or technical training at all levels; (2) ET as a major focus for undergraduate education; (3) specialized environmental training at postgraduate level with students of different disciplinary backgrounds, thus emphasizing an interdisciplinary approach, for example, in environmental management; (4) research at the postgraduate level, providing a focus for applying disciplinary or professional training to selected environmental problems; and (5) initiatives to develop new disciplines (e.g., environmental science, resources management) or a new profession, such as environmentalist, analogous to other professions.

Since environmental problems were local, regional and global, it was thought desirable to have a series of case studies based on local problems for the most practical pedagogical results. In this connection, the involvement of local populations, particularly those living in rural areas, was thought in need of special attention. It was also stressed that special training programmes should be provided for architects, engineers, health workers, decision-makers (particularly the key personnel of training institutions, including universities) and others. All participants emphasized the need to develop communication skills so that people with diverse backgrounds would be able to interact.

Problems of interdisciplinarity received special attention. In the field of environmental research and training, it was felt, the relationship among natural sciences, social sciences and the humanities still remains largely unsolved. Nevertheless, there is an absolute need to call upon the social sciences and humanities in the field of environmental training, since they alone highlight the social, ethical and cultural dimensions of the training required to adequately cope with the multiple aspects of environmental problems and improvements.

Report of Symposium 1

The main topic of this symposium (Chaired by Mr. E. Leff of Mexico) was "international understanding and environmental problems —the role of environmental education". The international nature of many environmental problems was stressed and the consequent need for EE to include messages concerning both environmental problems and international understanding and cooperation for their prevention and solution, including successful mechanisms and procedures in this regard at the international level.

War was viewed as a major threat to the entire planet, thus further emphasizing the need for international understanding and cooperation with EE as an ideal instrument in this connection. Similar views were expressed regarding the arms race. Concrete ecological problems, such as desertification, depletion of natural resources, etc., participants agreed, meant concrete problem-solving as an essential part of EE.

Precise proposals concerning the symposium's

principal topic included: strengthening of the ethical content of EE; improvement of EE content and methods through the exchange of international experiences; ensurance of lifelong EE, particularly in relation to specialist training and retraining; increasing the role of scientists in development. of harmonious relations between people and their environment; enhancement of the contribution of youth to environmental problem solving and a sense of environmental responsibility; establishment of a world environmental council; strengthening of peace, disarmament and anti-nuclear-arms activities; concentration of efforts in the 1990s on uniform EE textbooks, ecological glossaries and encyclopedias; and initiation of a unified international computerized system of information.

Report of Symposium 2

Discussions of this symposium (Chaired by Mr. N. Bodart of France) focused upon the contribution of EE and training to sustainable development. A presentation was made of the several documents distributed to participants concerning: EE in the field of desertification and other soil degradation; EE in the perspective of environmentally sustainable development; and the contribution of EE to development. Participants agreed on the need for EE and training in the process of socio-economic development but expressed varying views on priorities and modalities. Two possible roles for EE and training were indicated: (1) pointing out the environmental impact and danger of certain development measures; and/or (2) educating primarily for the purpose of reducing the problems created (recycling of wastes, rehabilitation of sites, etc.).

There was unanimity about development plans: decision-makers should take the initiative of involving the general population and people, too, should take initiatives for their own involvement in development plans and decisions. EE in both instances was deemed essential as well as denoting of target groups with appropriate EE goals, methods and programmes. An environmental ethic for all sectors of the population was stressed as well as recourse to the contributions of the social and human sciences for an understanding of each sector's environmental and developmental perceptions and limitations, so that appropriate EE and training programmes could be established.

The rich variety of interventions on the part of the participants, who represented the varied nations and regions of the world, led to the general conclusion that all EE and training should be adapted to the specific conditions and characteristics of the country, subregion or region involved.

Report of Symposium 3

This symposium (Chaired by Mr. J. D. Baines of the UK) considered how best to use the communication process for the benefit of EE and training. The process, according to participants, could be summarized by: *Who* says *What* to *Whom? How* is it said? *What means* are used? What were the *Results?*

Who. Environmental information used in the information process should originate from a variety of sources, reflecting the variety of people and the environment. In this context, the experience of the local group can be as important as that of a government minister.

What. The content and style of the information or message should be appropriate to the target audience. For example, frequently the information supplied by environmentalists to journalists on an environmental topic is written in a language difficult to comprehend and therefore to use. It was suggested that environmentalists, communicators and educators work cooperatively on the production of information to be used. Training courses to help journalists understand key ecological concepts were also recommended.

Whom. There is far more information than individuals can handle, thus a need for media and information skills which enable people to select and evaluate information available to them. With reference to environmental information, they should be able to detect bias and hidden messages.

How. The environmental information presented as part of an EE programme should be organised so as to assist people to understand the message and choose appropriate actions. For example, games and simulations enable people to respond to information in their own way; graphics and symbolic materials provide visual impressions which can be more appropriate and effective for particular groups than the written word.

What means. A range of techniques are available as part of the information process. In the transmission of messages a method should be chosen which is appropriate to the target audience. No method should be excluded on the basis of fashion. Methods available fall into three categories: *new*— informatics, telematics and video; *conventional* — museums, ex-

hibitions, posters, books, film, radio, TV, press; *folk-traditional* — oral, dance, puppets, mime, conversation, song.

Results. The effectiveness of the process should be evaluated so that future information activities can benefit from the findings.

Report of Symposium 4

This symposium (Chaired by Mr. M. Njiensi of Cameroon) considered: the role of biosphere reserves and other protected areas in the dissemination of ecological knowledge and in the training of ecological specialists. Eleven papers were presented and discussed which emphasized the need to further develop the international network of biosphere reserves for EE and training. It was pointed out that biosphere reserves constitute the core of Unesco's Man and the Biosphere (MAB) Programme whose main goal is to establish an ecological basis for sustainable development.

Specific case studies were presented on biosphere reserves and associated EE activities in Thailand, Ecuador, Indonesia, Colombia, France, the USSR, Poland, Czechoslovakia and the GDR. The case studies effectively demonstrated the natural linking of biosphere reserves and environmental education and training, thus the importance of further developing and creating biosphere reserves with accompanying educational programmes and active participation of local communities.

Actions urged to be taken in biosphere reserves included: explanation of their concept to local people in the local language; development of materials and programmes to fully exploit their EE and T potential; promotion of networking among biosphere reserves so as to share EE and T experiences; detailed international survey on EE and T in these reserves for more effective interaction among them; special programmes, including ecomuseums, in the reserves for preservation of traditional cultures, life styles and techniques; and evaluation of the effectiveness of current EE and T programmes in biosphere reserves.

Report of Symposium 5

This symposium (Chaired by Ms. T. Chelliah of Malaysia) discussed: national experiences and the contribution of nongovernmental organizations (NGOs) in the development of environmental education and training. Participants submitted 155 papers on experiences in EE and T in fifty-seven countries. Some fifty participants presented oral reports as well during the day-long symposium.

Highlights of the discussion included local and national environmental problems, environmental legislation with an EE component, and establishment of ministries of the environment.. A number of participants noted that recommendations of the Tbilisi Conference served as the basis for EE policy decisions and actions in their countries. Educational reforms involving EE aspects were reported as well as national mechanisms for the coordination of EE activities.

Formal education. Incorporation of EE into primary and secondary school education was considered fundamental and pre-primary advisable. Curricular and extracurricular EE activities were emphasized. Pre-service and in-service environmental training of teachers was reported as a high priority for many countries, as well as national training workshops for teachers and other key educational personnel.

Nonformal education. Incorporation of the environmental dimension into nonformal or out-of-school education was considered vi.tal due to its vast potential public. Both governmental and nongovernmental organizations were reported as active in this regard, making use of museums, summer schools, nature reserves and trails, study camps, cultural centers, field trips, workshops, festivals, etc. NGOs received particular attention in the discussions and their role was specially emphasized with concrete examples of their activities.

(Note: As proposed by the participants, country reports submitted to Symposium 5 will be published in whole or in part in future issues of *Connect.* Also to be noted is that the above final report (plenary sessions, commissions and symposia) was unanimously approved in the original complete form during the closing session of the Unesco-UNEP International Congress on Environmental Education and Training, 17-21 August 1987, Moscow, USSR.)

By Way of Conclusion

The Strategy for Environmental Education and Training for the 1990s adopted by the Congress is now being edited; it will be printed and widely distributed. It is hoped that it will serve as a major blueprint for governments and local and international organizations in the orientation of their environmental education and training policies and actions.

During the Moscow Congress, many participants were already anticipating a similar international meeting in 1997, to review progress in the ten years — 1987-1997, and to develop an EE and T action plan for the first decade of the 21st century. It was in this spirit that Mr. A. Chiba of Unesco presented his haiku-like poem in a speech at the closing session of the Moscow Congress:

When we meet in 1997:
May the sky be as clear,
Moon, Galaxy, Plow, Southern Cross,
As beautiful as we dreamed as a child,
When the world was a wonderful myth.

When we meet in 1997:
May the land be as clean,
Forests, mountains, plains, arid zones,
As green as ancient poets might have dreamed,
The motherly nature of the universe regained.

When we meet in 1997:
May the water be as pure,
Oceans, lakes, rivers, rain,
As fresh as a mermaid would have enjoyed,
Nourishing life for the land and the people.

When we meet in 1997:
May our dreams have come true,
People, Governments, UN, NGOs, educators,
As united and as committed as now in Moscow,
Sowing the Earth with our message.

RECYCLE PAPER

Save trees.

Save trees. This issue is printed on recycled paper.

Connect is also published in French as *Connexion*, in Spanish as *Contacto*, in Russian as *Kontakt* and in Arabic as *Arrabita*. Contents are exactly the same in all editions. *Connect* is free. Reproduction of its contents is not only permitted, it is solicited and encouraged.

Connect

Published by Unesco

7, place de Fontenoy, 75700 Paris, France

S.A.G.I. - Paris, Printed in France

04/60964