
THE GLOBAL FORUM

for Environmental Education



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Colofon

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Editorial.

The editorial board is having some problems producing the Global Forum this year. Apart from getting the articles together, there is a constant time pressure because of the conference in Portugal in June. We have therefore decided to publish a double volume this time.

In addition to articles discussing the need for environmental education from different point of views - the articles from D. Schreuder and M. Koter - we have articles describing the activities at two schools. The articles of D. Schreuder and M. Koter demonstrate in a clear way the importance we must attach to environmental education. R. Jowett's and M. Taylor's article demonstrates the role Caretakers can play in bringing

Editorial.

El equipo de redacción ha tenido ciertos problemas en la elaboración de GLOBAL FORUM de este año. Además de tener que recopilar los artículos, existe una constante presión debido a la conferencia de Portugal en junio. Por lo tanto, hemos decidido publicar un volumen doble en esta ocasión.

Además de los dos artículos que abordan desde diferentes puntos de vista la necesidad de implantar una educación ambiental - los artículos de D. Schreuder y M. Koter -, tenemos dos artículos que describen las actividades de dos escuelas. Los artículos de D. Schreuder y M. Koter ponen de relieve la importancia que debemos adjudicar a la educación ambiental. El artículo

about environmental education, and in stimulating it. To enhance that role we printed two of the many letters we received, these from a school and an organization requesting material for environmental education. We hope the readers of this publication will react and send information to the schools.

The editors started the new section "**Environmental Briefs**" in the hope of attracting short pieces from you about the different activities in the field of environmental education that you engage in. It can be as short as you like, and treat any subject. A full fledged article is no longer necessary. It might be a puzzle, a magazine, drawings or any other material.

The conference in Portugal is drawing nearer and nearer. Preparations are well under way. A short report from the organizing committee is in this publication. The editors hope to be able to meet many old friends, and to greet a large number of new ones. The importance of environmental education is evident, and the role of the Caretakers organization in stimulating environmental education is more than clear from the articles in this publication.

After the Olympics in Albertville and the enormous scale of changes that had to be made to the environment to enable these Games to take place, the theme of the conference: "Tourism and Environment", seems well taken. We can hardly afford on the one hand to engage in such activities, and on the other hand to condemn other nations if they damage their environment by burning the bush or cutting the rainforest. All over the world the pressure of tourism is felt on the environment. Discussions should not only focus problems related to the scale and pressure of tourist development on the environment, but also on finding ways to educate tourists to be more sensitive to the ecosystems and bio-regions they visit. If this does not happen I fear we may end up in the situation where the only place you can see and experience nature is a park like Disneyland Europe, which just opened in Paris, France where you can see a facsimile of the African Jungle with 'real' plastic animals and trees. Already we are confronted in Europe with the problems of over-developed tourist regions. I hope the conference in Portugal will start a discussion on these problems, and will find ways to alleviate them by introducing them in environmental education programs.

Jan Apotheke, chief editor

de R. Jowett revela el papel que Caretakers puede desempeñar en la transmisión de educación ambiental y en su impulso. Ese es también el motivo por el que hemos decidido publicar dos cartas que recibimos de una escuela y de una organización pidiendo material para educación ambiental. Esperamos que los lectores de esta publicación reaccionen y envíen información a estos colegios.

Los editores han iniciado una nueva sección "**noticias ambientales sucintas**" con la esperanza de que nos envíes contribuciones breves de las diferentes actividades en el campo de la educación ambiental, en las que estéis comprometidos. Puede ser lo breve que queráis y hablar de cualquier tema. No necesitamos ya artículos largos. Puede ser un puzzle, una revista, dibujos o cualquier otro material.

La conferencia de Portugal está cada vez más cerca. Los preparativos ya están en marcha. En este número un breve informe del comité organizador. Los redactores deseamos tener la oportunidad de volver a ver viejos amigos, y a hacer nuevos. La importancia de la educación ambiental es evidente y el papel que la organización Caretakers tiene para impulsar la educación ambiental queda más que patente en los artículos de este número.

Tras las Olimpiadas de Albertville y los enormes cambios que fue necesario realizar en el entorno para poder llevarlas a cabo, parece que el tema de la conferencia "Turismo y medio ambiente", está más que justificado. No es de recibo que por un lado nos comprometamos en tales actividades, y por otro condenemos a otras naciones por dañar el entorno, porque queman los arbustos o porque talan la selva tropical. La presión del turismo se deja sentir en el medio ambiente del mundo entero. Los debates no deberían tratar simplemente de cómo atraer al turista a un lugar determinado, sino también deberían tratar los problemas del volumen y la presión del desarrollo turístico sobre el medio ambiente. De lo contrario nos tenemos que el único sitio donde podremos disfrutar y vivir la naturaleza en el futuro, será un parque como el Disneyland de la Europa, que se inaugurará em berve en Pris, donde se podrán adquirir facsímiles de la jungla africana con animales y árboles reales, pero de plástico. En Europa ya debemos afrontar los problemas de las zonas turísticas sobre explotadas como Austria e Italia, por ejemplo. Espero que la conferencia de Portugal comience debatiendo estos problemas y que encuentre una vía para introducirlos en los programas de educación ambiental.

Jan Apotheke, redactor jefe.

The role of Universities in Environmental Education, with special reference to teacher training,

By Dr. Danie Schreuder,
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The author discusses the role of the universities in environmental education, particularly related to the field of teacher training. He goes on to discuss the nature of environmental education, and identifies five dimensions of environmental education: the physical, the psycho-social, the aesthetic, the intellectual and the spiritual dimensions, and discusses these. He proceeds to set a number of standards for education to be environmental, and the role of the teacher. He concludes that environmental education is essential for the running of spaceship Earth, and that universities play a crucial role in training those teachers that are to educate the decisionmakers of tomorrow.

El autor plantea el papel de las universidades en la educación ambiental, especialmente en lo que atañe a la formación del profesorado. Analiza la índole de la educación ambiental e identifica cinco dimensiones de educación ambiental: la física, la psicosocial, la estética, la intelectual y la espiritual, y las estudia. A continuación define una serie de normas para que la educación ambiental es esencial para conducir esta aeronave que es la Tierra, y que las universidades desempeñan un papel crucial en la formación del profesorado que tendrá el cometido de educar a los responsables en la toma de decisiones del mañana.

This paper was delivered at the fifth annual Conference of the Caretakers of the Environment International at the University of San Antonio Abad del Cuzco, Peru, August 27-Sept 2 1991.



Southern Africa with
South Africa

1. Introduction

There can be little doubt as to the importance of the role of Universities in the implementation of environmental education in any society. Universities, as independent institutions of higher education, are mainly responsible for the academic preparation of professionals who often have a certain measure of control over actions and decisions that influence the well-being of society and the environment. The results of research undertaken at Universities often influence policy-making processes of authorities. It is also safe to say that Universities directly or indirectly determine, or at least notably influence, the educational ethos of a society.

It is clear that one of the most crucial phases of the introduction of environmental education has not been reached in many societies, where teachers must be prepared to educate decision-makers who might more fully understand man's place in, and responsibility towards, the environment. It would therefore seem important that a crucial role of Universities lies exactly in this area, namely in teacher training. This might well prove one of the best investments any society can make.

In order for a generation of young people to realize that we are not supposed to live only from the environment, and to stress the impor-

ance of a policy of sustainable development, teachers being prepared in our higher institutions of learning at this point in time should realize what the real function of education is. Education, as an exclusively human action, has as its most important function the realization of those human potentials that will enable humans to fulfill their role in the environment, and not only to prepare themselves academically for a career.

In many societies it would appear as if the development of the crises in the environment has coincided with the crises in education. A new approach to education might therefore hold some solutions for the deteriorated relationships between man as the trustee, and the environment. To this end then, it would seem essential that Universities redefine education not only in their programs aimed at training professionals, but especially in teacher training programs. In this paper, an approach to education that may be more "environmentally friendly" than most of the current western approaches will be discussed.

2. Environmental Education: Education re-defined?

There is a trend to move away from the search for a universally acceptable definition for environmental education, mainly because of social, cultural and historical factors which direct different nations, communities and individuals to different views of the environment and its utilization (Jans van Rensburg 1990: 3). Environmental education should rather be understood in terms of description of McInnis and

give" (McInnes 1975:27). From whatever perspective, either ignorance or undesirable value systems or both are at the root of all environmental concerns.

What makes Education Environmental?

It is clear from the above that the "environmental" perspective on education corresponds with the view that any good education is environmental education; that education cannot be "un-environmental", and that environmental education is nothing but a function of good education.

What then, makes education environmental? In answering this question, it may become clear that environmental education might represent the solution to many of the problems in education mentioned earlier.

Firstly, education is environmental when the learner is exposed optimally to the immediate environment, natural as well as man-made. This implies that the environment is regarded holistically in the development of curricula for all school subjects, and used as more than a handy curricular terrain for occasional field trips and studies. The environment is a natural starting point for any kind of education in society. It provides a context, a perspective and a scope for varieties of learning experiences (Okot-Uma and Wereko-Brobby 1985:141).

Secondly, the teacher as facilitator or agent should fully recognize the worth of variety in didactic approach and teaching style in order to make provisions for the optimization of a variety of potentialities. It should also be recognized that the learner must participate actively in the learning process.

Thirdly, the educator should be fully aware of the potential of learners, and realize the importance of optimizing the maximum of these. Educators should be aware that education involves much more than exploiting the cognitive ability of pupils in order to make a grade or gain certification. The development of positive value systems to enable the learner to make informed decisions that might be of benefit to the community and the environment might be of greater importance; moreover, the cognitive component of any education should be selected in such a way as to enable the learner to interpret his environment and realize the consequences of his personal actions in it.

Fourthly, educators should bear in mind that the educational objectives of any course should, in principle, be able to meet:

- the needs of the **learner**(personal goals)
- the needs of **society**(socio-cultural and economic dimensions)
- the needs of the **discipline**(intrinsic values)
- the needs of the **environment**(sustainability)

3. Conclusions.

Mankind has a very highly specialized niche on the Spaceship Earth. This is a complex one, extremely difficult to describe, but for which humans have been well-endowed, not only with physical adaptations, but also with mental potential that needs to be optimized by exposure to the environment. It is clear that if this does not happen, we cannot properly fill this niche - and it would appear that both miseducation (of Western societies) and lack of education (in developing countries) has caused exactly this.

It is clear that education, especially since the Industrial Revolution, has gone wrong in optimizing only those human potentials that enable people to enrich themselves, to improve their standard of living often to the detriment of natural life-support systems. Only through education can we be equipped to realize and accept our responsibility. This education should not be limited to a certain phase, but be a life-long process in order to more fully realize the complexity of human potential.

The role of the University in this process is of crucial importance. This approach to education should pervade training programs of students in all University Faculties, but for obvious reasons especially those who are being prepared professionally to educate the next generation of decisionmakers. Teachers can only help to optimize the potential of a child when they have been exposed to the environment in such a way as to develop their own potential.

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Albrecht(1975:459) of education as "... the aggregate of all processes by means of which a person develops abilities, attitudes and other forms of behavior of positive value in the society in which he lives."

Dubos(quoted by McInnes 1975:p21), expands on this by referring to the original Latin term from which education is derived (educare-to draw forth), describing education as emergence from within of certain potential capacities. He reasons that "...each individual person is as much the product of the environment as of his genetic endowment. Human beings perceive the world, and respond to it not through the whole spectrum of their potentialities, **but only through the areas of this spectrum that have been made functional by environmental stimulation**"(bold lettering added). Exposure of a human being to the total human environment therefore enables these inherent potentialities to become capabilities, and this can only happen if and when they are activated by the environment. Braham has termed this process of realization of inherent capacities "optimization..." as it "...leads to the elaboration of potentialities, as inner resources are tapped, abilities are developed, and the individual is able to offer something to the world"(Braham, 1988:11). Furthermore, these possibilities "...are realized in direct proportion to the quantity, diversity and complexity of the environmental events we **actively** experience"(McInnes 1975:23).

According to this perspective, the function of the educator is to act as an agent between learners and their environment in order **to expose learners to the various aspects of their environment in such a way that their potential capacities are developed. This would enable learners to fulfill their role in their social and natural environment.**

Braham(op.cit.:16) describes the **content** of education by categorizing these potential capacities into five dimensions which can be elaborated on as follows:

1 **The Physical Dimension.** The development of this dimension should lead to a sense of responsibility toward the environment, and a realization of how humans fit into the scheme of life.

2 **The Psycho-Social Dimension.** refers to a social conscience and a sense of belonging to a community. The development of this dimension makes people aware of themselves and of others who share their concerns and responsibilities, and leads them to accept the values and ethics of their community.

3 **The Aesthetic Dimension.** refers to a sense of harmony, order, beauty and function.

the development of this dimension is vital, as without it, humans would be unable to create or to appreciate beauty, balance and harmony.

4 **The Intellectual Dimension.** This dimension is important, but tends to be overemphasized in formal education. Provision should be made for the learner to acquire a clear understanding of the functioning and power of the human mind in order to comprehend something of human needs, current world crises, the nature of man and his place in nature.

5 **The Spiritual Dimension.** The development of this dimension satisfies people's search for meaning that transcends ordinary rational thinking. This should be done without being prescriptive about a specific religious path.

In the education systems of most Western industrial societies, pupils are probably not exposed to the environment in such a way that a maximum number of potential capacities develop into capabilities. While those physical and mental capacities that enable us to remember, to foresee, to analyze, to imagine and to communicate are being developed, the capacity to appreciate and to act responsibly toward the environment is not.

This type of education may be conducive to the overexploitation and wastefulness that characterize many Western societies, and have also directly and adversely affected Third World environments. "Western" education has in many instances been "sold to", or adopted by developing nations, who have often been swayed by promises of economic growth and wealth. In many cases, however, this education has had the opposite effect, leading to environmental destruction, serious poverty and social hardship among "...those who are least able to help themselves, and whose indigenous abilities to cope with resource scarcities and environmental stress are already being eroded by forces mostly beyond their control..."(O'Riordan 1981:4).

Agarwal (1986:166) puts it more strongly when he states: "It is the so-called educated people who need environmental education more than anyone else. The more "educated" you are in the Third World today, the more alienated you are".

It would therefore appear that contemporary Western education has given rise to many of the current global and local environmental and educational concerns and issues. Some of these may be caused by the inability of humans to realize their utter dependence on the environment and associated life-sustaining resources, others by human's inability to accept the concept of finiteness, i.e. "...how much the earth can take, as well as how much the earth can

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From NKO the Parrots, Ghana (see page 17)

HELP!

Eric Kwasi Asante St. Augustine Wildlife Club

I am a Bird
My name is Swallow
My family was Large
I used to Sing
I need some Help
I call for Help
I cry for Help

My mother was Killed
My father is Dead
My voice is Dried
My heart is Broken
My future is Bleak
I tremble with Fear
I call for Help

The trees are Gone
The flowers are withered
The sun is Hot
The bush is Burnt
I have no Home
I sing no more
I cry for Help

When the last tree dies

Eric Agyei-Twum Boateng SDA Training College Wildlife Club

"When the last tree dies
The last man dies"
So a sage once wisely said
And for which I truly dread.
Trees are used for everything
Even from cradle to coffin;
Oxygen they provide.
For you, me and bees in the hive;
Flocks and herds,
The squirrels and birds;
Beatles and crickets,
And a host of other midgets;
All depend in various degrees
On our great and mighty trees
So lets join hands together,
To conserve our food, clothing and shelter;
As we all must surely know,
Right from the very word "go"
That when the last tree dies
The last man dies.

Integrated Environmental Education in Secondary Schools.

By Prof. M.Koter,
University of Lodz,
Poland.

Professor Koter begins to argue that the main cause for the existing environmental problems is the lack of knowledge of society in general. Environmental education is therefore a necessary step towards a solution of environmental problems. It should bring about a change in the way of thinking about environment, from a utilitarian one to a more socio-ecological one, respecting the laws of nature. He then describes what should be the content of environmental education, and gives a description of the situation in Poland. According to him EE should be compulsory, and be a broad subject, taught by several disciplines ranging from science, biology, geography to sociology.

El profesor Koter comienza argumentando que la causa principal de los problemas ambientales de hoy en día se debe a la falta de conocimiento de la sociedad en general. La educación ambiental es, por tanto, un paso fundamental para encontrar una solución a los problemas ambientales. Se va a traducir en un cambio en la mentalidad acerca del entorno, pasando de ser utilitaria a convertirse en una mentalidad más socioecológica, que respetará las leyes de la naturaleza. A continuación describe el contenido de lo que debería ser la educación ambiental y se refiere a la situación de Polonia. Afirma que la educación ambiental debería ser obligatoria, y ser una asignatura amplia que abarcara disciplinas tan diversas como la ciencia, la biología, la geografía y la sociología.

In contemporary Poland there is a widespread understanding that the present devastation of the country's environment and its creeping degradation call for measures which should stop processes leading to ecological disaster and the threat to the health of its inhabitants.

Scientific and educational circles are also becoming more aware that irrespective of legal, organizational and technological efforts undertaken by the state's administration, local authorities as well as economic institutions and industry, it is essential to carry out widespread and systematic environmental education aimed at changing society's attitude towards the problem of the environment.

It is necessary to change the hitherto existing utilitarian way of treating the environment to a socio-ecological approach, based on the awareness that nature surrounding us is our common good and that its present condition in Poland is critical.

Despite growing interest in those problems the population of the country is not fully aware of the consequences of the increasing degradation of the environment nor of the economic and social costs of such strong devastation. As a result the degree of society's responsibility to the condition of the environment is too small. Thus, irrespective of negligence in the sphere of ecological infra-structure (lack of sewage-treatment plants, air filters, etc.) the reason for insufficient environmental protection is lack of understanding of the consequences of economic activities of particular people and their careless attitude to nature around them as well as lack of discipline to existing legislature. It is, there-



Poland in Europe

fore, necessary to increase the level of ecological consciousness of the whole society which in its turn should lead to the start and practice of systematic environmental education performed on various levels and considering all aspects of the protection of the environment.

The most important task seems to be a change in the way of thinking - from a utilitarian one allowing ruthless exploitation of nature's resources into one which is a socio-ecological one, based on and respecting the laws of nature and individual feeling of responsibility for the environment.

Due to the complexity of ecological problems this new approach to the treatment of environment must have an interdisciplinary character.

The content of environmental education should contain the following aspects:

1. dissemination of philosophical and ethical rules determining the place and role of man in the system of nature;
2. knowledge of the environment as a set of biotic and abiotic interdependent components;
3. knowledge of the exploitation of natural resources, mainly as the consequences of people's interference with nature, of the limited resistance of natural environment, etc;
4. information on methods of preventing the degradation of environment;
5. preparation for decision-making related to our activities in the environment:
 - a. macrodecisions - made by politicians, lawyers, economists, planners and technologists on the national or regional scale.
 - b. microdecisions - made at the local level by individual citizens in their neighborhood.

6. developing habits that refer to communication with nature, respect for laws that protect it, as well as evoke in individual citizens the feeling of responsibility for its condition.

Among the many branches of science that should participate in the implementation of these tasks, the following should be mentioned to begin with: earth sciences (geography and geology), biology, chemistry, physics, law, economics, urban and regional planning, and technical sciences, as well as philosophy, sociology, ethics and others.

We distinguish four kinds of activities that contribute to the improvement of the environmental consciousness of society:

1. formal education, offered by schools at all levels, starting from kindergarten up to graduate and postgraduate university studies;
2. informal education offered by various organizations - e.g. ecological-, tourist-, boy scouts and girl scouts-groups etc;
3. the media, press, radio and TV actively aiming to popularize the knowledge of environmental issues and carrying out education on various levels in relation to perceptions of various social groups;
4. printed matter comprising various publications devoted to environmental protection and redevelopment of school and academic textbooks, information brochures on the condition of the environment at global, national, regional or local levels, up to both specialized and popular books and magazines.

Since the famous report by U.Thant (former secretary general of the United Nations) devoted to the threat to the natural environment in the world, numerous international conferences on this question place obligation on education authorities in all the countries to treat ecological problems as an inseparable part of general education and social upbringing.

In Poland the responsibility for implementation of international resolutions referring to environmental education rests with the Ministry of Education. As late as 1982 the Ministry started to underline environmental education programs for primary, secondary and vocational schools, simultaneously undertaking steps to ensure appropriate training of teachers.

Unfortunately the outcome of those activities is still far from satisfying.

To a great extent this stems from the fact that all the programs included in the resolutions of international conferences of UNESCO, and

others, as a rule consider the problems on a global scale. In fact, educational programs (and teacher's training) apart from selected global aspects, should contain issues which are essential for a specific country, resulting from its own specific natural, economic and social features.

However, the transference of interdisciplinary programs from a global to a national scale is not an easy task and has not yet successfully been achieved in our country although efforts to do so continue.

The essence of environmental education refers back to both cognitive and affective educational aspects related to the whole knowledge of environment given to students. These aspects are equally essential and should be equally reflected in school programs and everyday work of teachers. Each of them, however, should have distinct aims and be backed by programs of environmental knowledge at particular levels of education and within particular subjects.

Amongst the subjects that are particularly predestined for dissemination of environmental education belong first of all geography, biology and chemistry. However, an important role is also able there for humanities or liberal arts. Unfortunately, programs for these subjects do not cater for additional time to introduce new, ecological aspects of education. To make matters worse, in the case of geography, the time allotted to the implementation of this particular subject has been curtailed. This reflects the traditional concept of geography solely as the description of earth and lacks the understanding that contemporary geography explains processes that takes place in all four spheres of nature, their mutual interactions and thus it is particularly predisposed to convey the complex character of the science of the environment.

It is also highly inconvenient that particularly in "the three ecological subjects", i.e. geography, biology and chemistry, material referring to the environment is scattered and that programs are not synchronized neither in the horizontal order (among particular subjects) nor in the vertical one (among particular forms). The effect is that, for example, the biology program includes certain items from the field of earth sciences and regional planning for which biology teachers are not adequately prepared to teach, because they lack the initial training to do so.

As a consequence of this type of policy there appeared a real need to introduce in higher classes of secondary schools a complex, inter-

disciplinary program that would combine elements of environmental knowledge, hitherto introduced at lower levels of schooling. In 1986 all secondary schools finally started to teach a new subject entitled "Environmental Protection". This program, however, was compiled by a group of people which hardly represents the various sciences involved, and consists mainly of the "biological lobby". The textbook for the subject has also been written only by biologists. Therefore the choice of material arouses many reservations, since it does not include certain important interdisciplinary aspects of environmental science.

To make things worse, the subject has never become compulsory for all students. It is elective and offered only when at least 15 pupils declare willingness to have it in their study program. In practice the subject was introduced to a few schools only. It is the teachers and educational authorities who are to blame, not the students. Education authorities did not stimulate the subject enough. Teachers, particularly biologists, who initially consented to teach the course, had inadequate substantial and methodological knowledge of the subject and soon got discouraged.

We face a paradoxical situation nowadays: - pupils are highly interested in the problems of their environment but are obliged to acquire their knowledge of the subject mainly through informal ways of education.

Thus, the situation calls first of all for the training of highly qualified groups of teachers who will be capable to implement interdisciplinary programs. These programs however should also be continuously verified and adapted to

contemporary knowledge of the environment.

There are two ways that should help to accomplish that aim:

1. a notable extension in terms of knowledge of the 'environment' in the university programs of geography, biology and chemistry. This would guarantee a better preparation of students to be future teachers entrusted to teach environmental education; 2. institute postgraduate environmental studies or in service training for teachers already working in schools who graduated when ecological problems were not widely incorporated in university programs.

The University of Boda, apart from having earlier introduced professional postgraduate studies in information about and protection of the environment, carried out by environmental biology and physical geography departments, in 1986 started the first Polish postgraduate course for teachers of the subject. This course is organized by the Institute of Geography. Apart from geographical i.e. geomorphological, hydrological, climatological and human geographical aspects, the syllabus of the two-semester course also includes biological, chemical, legal, technical and economic, as well as social and even philosophical aspects of environmental knowledge, presented by specialists in these topics.

During the past five years some 100 teachers of different subjects, working both in primary and secondary school, have graduated. We shall try to develop this program of postgraduate teachers' training within the EC's Tempus program in collaboration with the Jordanhill College of Education, Glasgow and the Hogeschool Rotterdam and Omstreken (see Globescope,ed).

Caretakers of the Environment



Guardiens de l'environnement

Logo from Caretakers of the Environment,

Canada.

Environmental Education A School priority

By Raymond Jowett and Mike Taylor
Dyce Academy, Riverviewdrive, Dyce
Aberdeen Scotland.

Abstract: This article outlines the background to the development of environmental education in a Scottish secondary school. It describes the whole school policy on environmental education and the reasons why a specific course in environmental education has been developed. Finally it describes how initiatives such as Caretakers of the Environment International can be a stimulus to further development and makes a plea for any schools interested in linking/twinning to write to the above address.
Este artículo describe al fondo del desarrollo de la educación ambiental en una escuela secundaria escocesa. Describe el régimen de la escuela, entera para educación ambiental, y los motivos por desarrollar un curso fijo de educación ambiental. Por fin describe cómo iniciativas como Caretakers of the Environment International estimular el desarrollo mas lejano y invita escuelas interesadas en intercambio de escribir al dirección sobredicho.

In this article we would like to illustrate how environmental education has been integrated into the curriculum of a secondary school. Dyce Academy is a six year comprehensive secondary school located in a suburb of the city of Aberdeen which lies in the north-east of Scotland. Our students are between thirteen and eighteen years old.



Scotland in Europe

The school is relatively new having been opened in 1980. In 1982 the school was invited to become a member of the European Community EE Network - largely as a result of the fact that it was a new and developing institution and therefore not carrying the burden of inertia and established structures that many long established schools seem to have. The opportunity for innovation was there. The EC Network project is now over but it served its purpose in getting the school started on the process of integrating environmental education into the curriculum. Now ten years later in 1992 the school has environmental education firmly established in its curriculum - in fact it may be said to have become part of our inertia and structure.

During this ten year period a number of events have taken place. Firstly we have established a standing committee on environmental education to develop, implement and monitor our environmental education activities. This committee is really a cross-curricular team consisting of a member of senior management plus staff from biology/science and geography/social subjects who have environmental education as part of their job remits. Having a team of this cross-curricular nature ensures that environmental education does not become the ex-

clusive domain of any one subject area but is treated rather as an approach to education which every subject can contribute to.

This environmental education team has been responsible for two major developments. The first of these was the establishment of a short compulsory course in environmental education which all students between 14 and 16 years have to follow. This course lasts for ten lessons of eighty minutes. This may seem to contradict what was said above i.e. that environmental education is not a subject of the domain of one particular subject. However this was the first major move into environmental education that we made. The reason for establishing such a course was that it ensured that all students receive some genuine grounding in basic environmental principles. Since establishing this course however we have made a second major development. This was the establishment of an environmental education policy which all staff agreed to. This now forms an important part of the whole school policy and is published in the school staff handbook.

These two major developments are now seen as complementary and should ensure that our students are more environmentally educated than they would be otherwise. The policy statement should ensure that all teachers, of all subjects, make some contribution to environmental education through how they deal with and organize work in their everyday subject teaching. Everyone has accepted that they can contribute to education for the environment by treating their subject matter in an appropriate way.

The policy statement reads as follows:

The school aims to provide for the environmental education of all its students.

Environmental education is not a school subject but an approach to learning which fosters environmental awareness in students. Most subjects/courses contain an element of education in and about the environment but what distinguishes the approach of environmental education is that it is education for the environment. More particular aims are:

- raise awareness of the importance of the environment and its workings for all life;
- instill genuine feelings of concern for the quality of the environment;
- provide motivation for action in relation to environmental issues.

The school provides a specific General Studies course in environmental education so that there is a formal focus for environmental education in the curriculum. All subjects/courses are, however, expected to contribute to these aims by adopting an approach to environmental issues which centers on the whole environment rather than just centering on man.

Overall the it should be clear that we have developed a double edged approach to environmental education which we hope is effective. The policy statement should ensure that environmental education permeates the whole curriculum while the specific environmental education course provides a specific focus for the students as well as contributing to the general environmental ethos of the school.

In this short course students do two main things. Firstly they learn about basic ecological principles and the interdependence between people and the environment. They learn about the impact that people have made on the major environmental systems in the short time that the human race has existed. They also learn how the environment should survive quite happily without people but that the reverse is not true. Table 1 shows how the major points about this course are summarized for students.

Following this the remainder of the course involves students doing a research project. This year students are investigating some global environmental issues to discover what they are, what causes them and what they as individuals can do about them. The subject of the project has varied from year to year. It is often related to

STATEMENTS DESCRIBING SOME OF THE KEY THINGS STUDENTS SHOULD HAVE LEARNED FROM THE COMPULSORY ENVIRONMENTAL COURSE - ADAPTED FROM A COURSE WORKSHEET

1. People depend on the environment for their most basic needs - FOOD, AIR WATER and SHELTER.
2. Absolutely everything which we use or consume in our everyday lives comes from the environment. Can you think of anything that does not?
3. Once we have used all these things that come from the environment they will return to the environment in some way. There is no "away"!
4. Other living things depend on the environment too i.e. plants and animals. They too return their waste to the environment.
5. In the short time that the human race has been on the Earth it has had an enormous effect on the environment. Some of the effects are not good. Can you think of any other living things which have done this?
6. If we do not treat the environment well it will not treat us well. We might suffer the same fate as the poor old dinosaurs - except in our case it might be our own fault!
7. If we do treat the environment well it will treat us well. We should really do this since each of us is really 'part of the environment'. If you removed part of your body the rest of it would not work so well, would it?
8. If each person does his/her own bit by making sensible decisions about the environment in his/her everyday life then the environment will remain the healthy natural recycling machine that it is.

There is a widely used saying about the environment -

THINK GLOBALLY, ACT LOCALLY

Can you see why it is important for each of us to do this?

Table 1

the theme of that year's Caretakers conference. Students from the school have attended every one of these so far. These projects have involved topics such as a school environmental audit and an audit of the practices of some local industrial organizations. In general students respond well to this course. It is our feeling that the younger generation are increasingly concerned about the environment and are more-willing to question their lifestyles than we are.

One thing we have not yet managed to do is to evaluate the effectiveness of our whole school approach to environmental education. We are not sure whether or not we are really achieving the aims we have set. This is a difficult issue to tackle since it involves the measurement of attitudes and personal behavior. These are very difficult to observe and even more difficult to measure but we are determined to find a way! Our teachers' instincts tell us we are achieving something but we are conscious of the need to avoid complacency so we should really find some objective way of evaluating our environmental education strategy.

Another strand we have exploited in order to further environmental education in the school are the opportunities which are available to become involved in national and international initiatives. Caretakers of the Environment International is an organization to which we have become increasingly committed and which we hope to see develop. There so many opportunities which the network that it represents could develop. As mentioned earlier we have participated in all the conferences but would like to see the network develop in such a way that more

students and more schools could benefit from the involvement - and consequently the environment. If students in different countries could communicate with each other on matters of common concern this would instill a greater feeling of responsibility for the environment and for other people. We would like to see Caretakers establish a system which would really enable the various schools who have been involved to communicate with each other - perhaps via a directory of members or some kind of international 'dating agency' for school?

We are sure for example that our students would benefit from some direct contact with students in a less wealthy or less fortunate country - they would gain a new perspective on environmental problems and see how closely they are related to the problems of development at whatever stage. Maybe you would like to communicate with us?! This would further environmental education in our school and we hope would also do so in yours. If you are interested in the possibility of twinning or linking with us, please write to us at the address given at the beginning of this article.



Environmental Education activities at the Dyce Academy.

Environmental Education in the Kolsky Region.

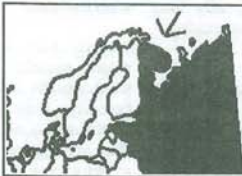
By Lydia Kossareva, language teacher,

Hlobystova 28/2

fl 91 Murmansk

183034 Russia

1 million 156 thousand people live on the Kolsky peninsula over the Polar circle. More than 20000 beautiful rivers and lakes, 1170 types of high plants decorate our region. 230 different kinds of birds and 32 types of mammals live here. The forests cover an area of more than 10000 hectares.



Russia in Europe

This large natural area is very vulnerable, and easily wounded. The main damage is caused by the emission of several large factories. The heavy pollution of the atmosphere also causes a great number of diseases, like heartaches, violation of sights, etc.

During the last years the social activities and actions of the population devoted to the protection of the environment has highly grown.

Environmental education starts at early childhood. In kindergarten children receive their first instruction about nature, where a careful attitude towards plants and animals is developed, when they study the habits of breeding fishes in aquaria. Starting in the first form of schools our children learn special topics in the subjects and programs "Nature Conducting", "The Acquaintance with the Surrounding World".

In our primary schools the topic of environment passes through the subject of the biological cycle. Children not only receive theoretical lessons, but apply their knowledge in their local surroundings. For example, annually in the period from May 15 through June 15 an ecological month is held. Special attention is then paid to the rest zones, e.g. children's playgrounds, parks and open gardens. Children plant trees there under the motto "Give nature a hand". The children are also involved in the process of making maps of high tides and low tides, gathering eider down, counting birds etc.

The work of one of our ecological clubs "Green Brunch", from school 51 in Murmansk, was presented in the International Caretakers Con-

ference in Peru, by two students from this school. They participated in the work of "Greens" and the movement "Nextstop". They helped an organization of fishery protectors keep the seawater pure.

10 years ago one of the Pioneer houses of the Forest organization "Optimist" organized activities for children from 14 to 16. Nowadays the number of participating children is 150. They organize experimental and research work. They also take plants from Tyan-Shan (Middle Asia) to Murmansk, try to acclimatize them, then plant and grow them. In summer 1991 this group participated in the work of an international camp in Finland, where they planted trees in Alatami.

Our ecological clubs and circles have close ties to the Polar Alpine Garden in Apatity of our region, we cooperate with the scientists in the Kolsky Scientific Center.



The planting of plants from Tyan-Shan

(The work of the young biologists is represented in the pictures throughout this magazine, including the front page. Ed)

Announcement of the International Workshop on Environmental Education as a parallel event to UNCED. Rio de Janeiro, 4 and 5 June, 1992.

The United Nations Conference on Environment and Development (UNCED), more known as the "Earth Summit", will be complemented by a number of parallel events tackling issues as diversified as environmental ethics, religion, environmental law and peace. Although references to the need of ecological education and environmental awareness are likely to be incorporated into some of the events, the role of environmental education was likely to be overlooked.

Based on the need for an in-depth discussion on the status of and the problems faced in the undertaking of environmental education programs, an International Workshop on Environmental Education is being organized. It will take place on June 4 and 5 at the Flamengo Park, near the Hotel Glória, followed by a briefing day, in Portuguese, for the Brazilian public.

The objectives of the event are three fold:

1. to provide an opportunity for persons and institutions involved with environmental education to describe its current status in their countries;
2. to enable discussions on the problems faced by different countries in the implementation of EE programs, thus motivating the exchange of experiences;
3. to adopt a framework of action at an international level, with the creation of the International Council for Environmental Education, which will provide advice on the preparation,

execution, monitoring and evaluation of EE programs, as well as advise institutions and governments on their execution.

The program of the workshop, includes participation of representatives from UNCED, UNEP, and Unesco, as well from experts with international acknowledgment. UNCED's Chairman, Mr Maurice Strong, has been invited to open the workshop, which will be concluded with the launching of the International Council for Environmental Education. The program of the event is as follows: **Day one** is filled with a number of keynote addresses. Day two is filled with presentations of the state of the art of environmental education in the different continents of the world. **Day two** is concluded with the founding of the International council for Environmental Education.

The participation of representatives from 27 countries is expected, and in an attempt to raise the number of participants from developing nations, the organizers are willing to help delegates from Africa, Asia and Latin America with fund-raising. Further information on the workshops as well as registration forms, may be obtained from the co-chairpersons:

**Monica Hale, 10 York Road, Sutton, Surrey,
SM2 6HA, England,
Fax +44-81-643-04-39**

**Walter Leal Filho, University of Bradford
Dept. of Environmental Science
Bradford, West Yorkshire BD7 1DP
England,
Fax: +44-274-384-231**

From NKO-The Parrots, Ghana : Riddles, by Abena Biney Nature Lovers Club, Holy Child

1. What is ugly to look at but powerful and graceful in flight?
2. What has two legs and flies?
3. What has a big head but cannot think?
4. What has ears but cannot hear?

5. What stays hot even in the fridge?
6. What room has no walls, doors, floors and window?
7. What is taller sitting than standing?
8. What can you swallow that can swallow you?
9. What is more useful when broken?

For answers look at page 17

Environmental Briefs

**Grupo Ecologista de Tlalpan
Carreta Libre a Cuernavaca No. 7000
C.P. 14490 Tlalpan, D.P.
Mexico**

Worried about the grave ecological problems that affects Mexico City -which is one of the largest and most contaminated cities in the world- we founded the "Grupo Ecologista de Tlalpan".

As you know, Mexico City is located on a plateau 2400 meters (8000 feet) above sea level and almost completely surrounded by mountains. The pollution is caused by over three million vehicles, which consume bad quality fuel with a high lead content, and by more than 500 public baths and about six thousand industries. As a result of the cities geographical location the pollution is literally locked in.

And yet, it was not until 1991 that the factories were finally forced to equip new cars with catalytic converters.

Besides our city once had the doubtful honor of having three paper factories, that is, three industries that completely stripped the surrounding mountains.

In the future we will give you a full account of how since the conquest of Mexico in 1521, everything possible has been done to destroy the ecology of the valley of Mexico which only sixty years ago the Mexican poet Alfonso Reyes baptized as "the most transparent region of the air and space".

It is with deep regret that we confess that we are the group formed by twenty million inhabitants with the least ecological conscience on this planet.

During the last forty years we have been saturated with information from the government saying the contamination problems of Mexico City will be solved, but so far nothing effective has been done.

Mexico City is divided into sixteen "delegaciones" or municipalities, of which Tlalpan is the largest and contains two million inhabitants of the twenty million who live in the metropolitan area.

The last wooded area in this city is the mountainous zone of Tlalpan, and we feel obliged to save this last green lung that exists in the

most polluted city in the world.

As a start, we have placed in the rural areas of Tlalpan ten mural newspapers and we print periodical bulletins trying to arouse the concern of the people to save this last ecological trench.

We are starting an educational campaign in four hundred and fifty schools located in the Tlalpan area, in order to teach the children how to recycle trash and we believe that with the compost we can generate and the tree nurseries we are creating we may soon be able to begin reforestation of the zone.

Also we have managed to join groups from ten different municipalities of the sixteen that conform the city to join forces in order to form local ecological groups. We are recurring to you to **offer information, assistance and guidance in the hard struggle we have ahead to attempt to solve our grave problem of pollution more efficiently.** We also request information about the **pedagogical norms to develop an ecological conscience**, on how to recycle trash, and on what we should do to try to save the last wooded area of our city.

Please write to Dr. Felix Bañuelos, at the above address.

**Institut de Batxillerat
Carles Riba,
Passeig Vall d'Hebron, 93
08035 Barcelona**

Request for support.

We have heard about Caretakers of the Environment through a teacher friend working for the Oficina del Medio Ambiente de la Junta de Andalucía en Huelva (Spain)

We are a teacher of the English language and a group of students in a High School in Barce-

Environmental Briefs

Iona. We are willing to join your network. We are now developing a very elementary program on environment and we feel the need to contact other schools, other people to know what they are doing and how.

We would like to support your initiative. We would like to have some samples of projects developed in other secondary school (students aged 14-16) and we would be very grateful if you sent them as soon as possible so as to have ideas for our second term.

Please send your information to group 2B, and Laura Martorell, teacher coordinator, at the above address.

The wildlife club in Ghana, by Lt.Gen. Arnold Guainoo, Dept. of wildlife, P.O.Box M239, Accra Ghana.

(In Ghana the Wildlife Club is a very active organization. NKO the Parrots is the magazine of the club see page 7,15+19.ed)

Ever since the issue of sound environmental quality took on an additional air of importance and urgency in Ghana and became a serious matter of major concern, policy and action, we in this country have gone a very long way. Much has been achieved, but admittedly our achievement have not been enough. We all know that for us to evolve a much more environmentally responsible pattern of life, much more work must be done, more action, not more words.

Today the environmental issue has gone beyond lecture rooms and libraries. The facts and figures are everywhere naked staring us in the face. Who does not know that the destruction of our tropical forests is the single most serious environmental and human catastrophe facing our planet today? Who does not know that around thirty million hectares of tropical wet and dry forests are lost every year? And that this amounts to between fifty and one hundred acres a minute? And with this destructive tendency we manage to make between 500 - 1000 plant species a year?

We all know that the desert is here with us at the Accra Plains and that the unbearable heat we

are all experiencing these days are attributable, among other factors, to the high incidence of uncontrolled bush fires, overgrazing and overcropping and compounded by factors such as the massive release of carbondioxide into the atmosphere by industry, vehicles, etc. We all know of how our dams have been effecting the quality and quantity of our indigenous fauna and flora. We know the reasons for the increase in water-borne diseases in our country. And how sand and stone winning from our beaches has been contributing seriously to the erosion of our coastal lands. We know all these things. What is required now, as always, is greater willingness to use the knowledge in the service of our country; to protect our grasslands, forests, animals, beaches, our water and our atmosphere from abuse and misuse. It is in doing this that we would ensure our own survival, and the survival of future generations of our people, in an atmosphere of pride and dignity.

Where do you stand in this battle to save the environment from ourselves? Are you in the vanguard or in the rearguard? Are you sitting and watching as if it's all happening on television? Or, You have told them what to do and They are not doing it? It is you and I, in our legitimate desire to survive, that have contributed to our current environmental problems. In the same vein, it is you and I that should work in concert to stop the rot. There is so much that we can do to:

- Ensure judicious use of our country's natural resources.
- Instil additional sense of responsibility towards the environment all around us.
- Encourage improved agro-forestry practices.

Yes we can all contribute our quota to help stop the uncontrolled bushfires, the overcropping of our soils, the overgrazing of our grasslands and the rapid erosion of our coast.

Let us all put on our armor and join the fight to protect our environment, and make the world a better place for all mankind.

Answers to page 15: 1.Vulture, 2.Bird, 3.Cabbage, 4.Corn, 5.Pepper, 6.Mushroom, 7.Dog, 8.Water, 9.Egg.

Youth Tourism in India

By Ravi Dutt,

Indian Assembly of Youth, Caretakers of the Environment India

This paper was presented at the International Conference on youth tourism.

Tourism has developed in most countries as an important foreign exchange earner and as a source of growth and employment. It has the potential of playing a vital role in redressing the adverse balance of payments. As such it is a vital industry for developing countries like India which face balance of payments crisis, paucity of foreign exchange and who are compelled by the need to exploit all possible resources for economic development and for creating employment opportunities.

Youth tourism however presents a different challenge than normal tourism. The objective here is not primarily economic but emphasis is on inculcating positive values oriented towards fostering a sense of unity among the young man & women of various nationalities and ethnic groups, discipline, self reliance and nation building.

In spite of the enormous potential that India has as a tourist attraction in terms of variety of landscape, peoples, cultures, flora and fauna, no concerted effort appears to have been made for promoting youth travel.

However in recent years tourism has been promoted through the electronic media and the festivals of India organized in USA, UK, USSR, Sweden, France and Germany to provide direct exposure to Westerners about the cultural aspects of India.

At home bottlenecks like the air capacity constraints are being removed. Domestic airline capacity is being increased and international traffic to India is being encouraged by liberalizing chartered flights. Similarly 288 new hotel projects have been approved and are under completion.

In addition 18 new circuits have been identified in South India which are expected to help in diverting the bulk of the traffic from the golden triangle of Delhi-Agra-Jaipur to the southern parts of the country.



India in Asia

Buddhist heritage sights are also receiving special attention and infrastructurally the Buddhist sector is poised for rapid development to attract tourists from Japan and other southeast Asian countries.

Much however remains to be done for development of tourism in the country in general and for youth tourism in particular. There is no dearth of youth travel interest within India and the

south eastern region. Youth travel needs little investment in infrastructure. Major activities of young tourists like trekking, adventure sports, river rafting etc do not require high investment. On the contrary they carry their benefits to the economically backward areas.

The Himalayas are a unique tourism 'resource' and can be tapped for organizing trekking trips and river rafting for young tourists on a much larger scale than has hitherto been possible.

Free camping sites and holiday camps can be developed at little costs to encourage youth travel both at an all India and the south Asian regional level.

A comprehensive policy on youth tourism must be evolved incorporating a movement to:

- a. Save money for travel
- b. manage resources efficiently.

At the south Asian regional level youth can be motivated to visit India:

- A. By a concerted campaign in Universities and Colleges of neighboring countries to begin with.
- B. By introducing special concessions to youth tourists, and
- C. By encouraging youth travel exchange programs.

Non profit youth organizations on the model of 'The International Youth Travel Organization' (which is the largest international youth travel organization in the world since 1951) can be promoted in developing countries to facilitate youth travel through a network of concessions. Concessions for domestic and regional transportation by air and surface, hotel accommodation, free access to place of historical heritage and cultural and recreational interest (such as sport complexes, theatres etc) can

be envisaged.

South Asian countries can develop strategies in cooperation with each other to promote the region as a single destination market for their own benefit as well as for those of international travellers. Agreements for removal or easing of immigration and other formalities can take place among governments to facilitate tourist movements. In fact South Asia can take lessons from ASEAN countries in promoting regional tourism for the youth and in easing of restrictions on tourism.

One positive development in the promotion of tourism in Asia has been the setting up of Asian Youth Travel Bureaus (AYTB's) with the objective of:

- a. establishing a uniform Asian Youth Travel card which will make a network of concessions and facilities available to card holders.
- b. to develop concessions for national and inter-

national transportation, accommodation, access to cultural facilities and heritage.

c. to promote youth travel in Asian countries and engage in a program of youth travel and exchange.

The AYTB concept now operative in the South-east Asian region can be adopted by India and other South Asian countries to make Asian youth travel a real success story.

Editor's note: The impact of tourism on the environment and the various ways environmental education can help tourists become more sensitive to the areas they visit will be discussed at the 6th Caretakers of the Environment International Conference in Troia, Portugal later this year.

From NKO, The Parrots, Ghana

The trapped bird

S. J. Nyarko

Department of Game and Wildlife

*I heard a cry
A cry of pain
From one in despair
A cry for help
And, oh, such shrill it was
As never rent the sky*

*It was a death throe
From a tern caught in a trap
Oh! what a piteous sight
To see one suffer such
Should I get it free
When both legs are broken?
Or should I stand by
To see it struggle to death?*

*When will man learn
That wildlife has the same right as man
To live on God's given earth.
And stop indiscriminate killing of wild animals.*

Environmental Trivia

Kathryn Graves, Canada

- Did you know that people in Canada, living in Urban areas produce approximately one ton of garbage each year?

- Did you know it costs over \$ 1.5 billion a year to get rid of Canadian garbage, in ways that often damage the environment?

- Did you know that studies have shown that in a typical western household separating household trash for recycling is easy and takes about 15 minutes per week?

- Did you know that by recycling in Canada 407 million kilowatt hours of electricity is conserved every year?

- Did you know that one ton of recycled newspaper saves about 17 trees?

- Did you know that 32,000 trees are cut down each day just to produce the newsprint for Canada's daily papers?

- Did you know that glass can be recycled indefinitely?

News from the sixth International Environmental Education Conference "Environment and Tourism"

Troia, 15 - 19 June 1992.

We have received the following program from the organizing board of the conference.

- Monday - 15 June :** 14.00 -Arrival of participants
Setting up of display boards by participating schools
17.00 - informal introductions:
. Welcome
. Presentation of Delegates
. Formation of workgroups
20.00 -Dinner
- Tuesday - 16 June:** 9.30 -Official Opening
10.30 Coffee break
11.00 Plenary session:
. "New approaches to tourism", Joao Albino
. "Cultural Routes", Antonio B.Pereira
. "Heritage and Tourism", Pereira Oliveira
13.00 Lunch
15.00 Workshops:
. The use of Arts in environmental education (students)
. Environmental monitoring (teachers)
. Session for presentation of projects
18.00 -Workshops for students
. Group sessions
. "Gastronomy and Tourism" - Luisa Nunes
. "Development of projects in the field of Environmental Education in School" - Frits Gravenberch (for teachers)
20.30 -Dinner
Social Activity
- Wednesday- 17 June** 08.00 -Tour with instructive itinerary.
Troia - Sintra - Cascais
20.30 Dinner
Social Activity
- Thursday - 18 June** 08.00 -Field trips according to the workgroups:
. Themed walks and nature related activities
18.00 -Workgroups - Preparation of Conclusions and Recommendations
21.30 -Dinner
Social Activity
- Friday - 19 June** 9.30 - Conferences:
. "Tourism in protected areas" - Pedro Henriques
. "The component of environmental education in the Blue Flag Program" - Cristina Vieira
. "Physical Education and Environmental Education" - Luis Bom
. Presentation of other subjects by foreign speakers
12.00 -Lunch
15.00 Plenary:
. "Dessimination of the recommendations of UNCED - Rio de Janeiro, June 1992
. Presentation and Debate of Conclusions and Recommendations drawn up by the workgroups
. Evaluation of the Conference.
17.00 Closing session
19.30 Departure to Lisbon
21.00 Farewell dinner at St.Jorge's castle - Lisbon
. Presentation of the VII Conference.
. Social Activity
- Saturday - 20 June** 8.30 - Departure to Lisbon



A picture of the site for the 6th CEI conference, Troia, Portugal.

Late registration for the conference may still be possible by contacting Clarisse Mendes at the following address. The conference fee is \$ 150.- per person, and post conference tours are available.

Clarisse Mendes

Direcção Geral dos Ensinos Básico e Secundário

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**The VI International Conference on Environmental Education
for teachers and students of
Secondary Schools "Environment and Tourism"
the organizing committee**

Portugal participated in all the former Conferences with delegations of administrators, teachers and students responsible for the implementation and/or development of environmental education projects.

Environmental Education became in recent years an issue of utmost importance at all levels, inside and outside the education system.

Complying with the resolutions and recommendations of international organizations such as the Council of Europe, the European Community and Unesco the new curricula and syllabi launched within the Educational Reform in Portugal take into account the goals, objectives and guiding principles of environmental education regarded as a permanent process in which individuals and the community gain awareness of their environment and acquire the knowledge, values, skills, experience and also the determination which will enable them to act individually and collectively to solve present and future environmental problems.

The choice of the theme of this Conference "Environment and Tourism" is fully justified by the necessity of striking a balance between the protection of the environment and the increasing importance of tourism (as a factor of development) in Portugal and worldwide.

The theme of the Conference being "Environment and Tourism" the organizing committee chose Troia as the site for the conference. It is an emblematic place to discuss the interrelation between Tourism and Environment.

50 km south of Lisbon, Troia is a dazzling Peninsula with superb golden sands situated between the south bank of the estuary of River Sado and the Atlantic Ocean. The natural conditions of this region are suitable for the practice of nautical sports in protected bays and in the midst of the estuary.

Inland there are good conditions for the practice of golf, tennis and pedestrian tourism.

Facing Troia, in the huge Peninsula of Setúbal on the north of the estuary of River Sado, stands the Arrabida Mountain known worldwide by the rarity of its Mediterranean vegetation. With the purpose of protecting this valuable natural heritage this mountain is part of the natural park of Arrabida. At the foot of the mountain

beaches like Portinho da Arrabida and Figueirinha attract many Portuguese and foreigners.

Due to the proximity of both the ocean and an important river, the Sado, different populations settled in the Peninsula of Setubal during the centuries. According to archeological findings, there were important urban and fishing centers (including Troia) with fish salting factories in the Roman age.

The varied popular crafts of the region are representative of its traditions and cultural roots. Seafood is the basis of the local cooking.

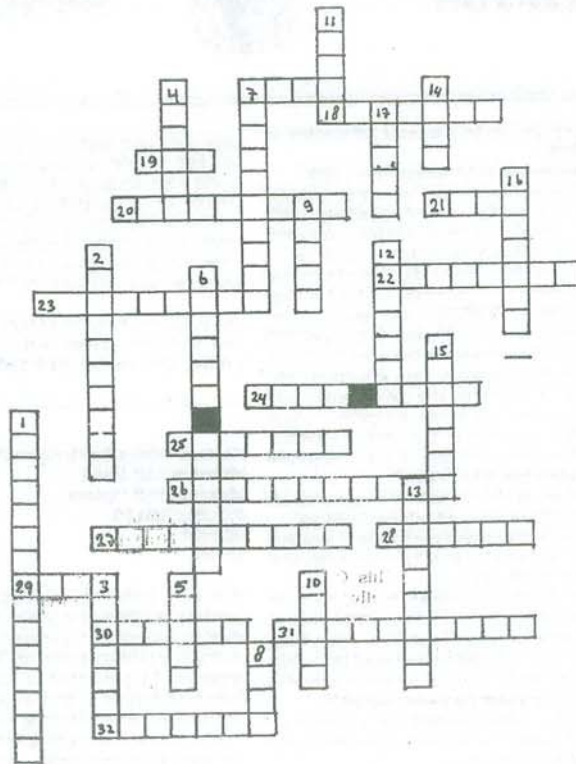
Presently Setubal is the most important town in the area and a busy commercial and industrial center.

During the conference experts, administrators, teachers and students will have the opportunity to exchange information and experiences and to present projects developed under the heading "Environment and Tourism" (see draft program).

Some suggestions were given to Portuguese schools such as:

- Design a model of touristic development in your region compatible with environmental protection.
- Evolution of the tourism industry in your region - motives.
- Enhancing the natural heritage - the importance of pedestrian tourism.
- Enhancing the cultural and architectural heritage - in search of urban sites.
- Environment, tourism and quality of life - which relation?
- Intervention in the tourist activity - what responsibility towards environment?
- Parks and reserves - "a necessary evil" - what positive factors?
- Environment, tourism and traditional activities - valuing the national roots.
- Degradation/Improvement of coastal zones - what responsibility for tourism?

We expect this Conference to be a forum of dissemination of the results and recommendations of the Rio Conference, promoted this year by the United Nations.



This puzzle was made by Kathryn Graves,
P.O.Box 5259, Armdale, Nova Scotia B3I 4S7,
Canada.

1. Simplification of the ecosystem
2. Action of guard, something to keep from harm
3. Place where ships lie.
4. Territory with trees.
5. Action of using again
6. Species of endangered bird.
7. Change in population.
- 7h. ground
8. Rise and fall Of the sea.
9. The most beautiful thing in the universe.
10. Overflow of water.
11. Mineral, life.....
12. Mass of ice.
13. Action of creating a park.
14. Satellite of the earth.

15. The deserts are
16. Think again.
17. One of these is Pacific.
18. Science of plants and animals
19. Mass of water.
20. A river system.
21. Author (of this puzzle)
22. Place to dump garbage.
23. The major problem on earth.
24. Poisonous rain.
25. Type of animals, birds etc.
26. opposite of 15.
27. The jungle.
28. Beast.
29. Water animal.
30. Do not accept
31. A large group of animals or humans.
32. reprocess for use again.

Globe



Scope

Conference on Environmental Education in Europe(EEE)

The Netherlands; 8-13 November 1992

Two European conferences on environmental education were held in the last years (Italy, 1988; Scotland, 1990). In order to continue this communication between European countries, to stimulate developments in the field of environmental education and to make up for backlog, the participants of the last conference Conference on Environmental education in Europe(EEE) decided to organize new conferences. The third conference will be organized in the Netherlands. It is meant to stimulate the development and use of structures in Europe to continue cooperation and exchange in the field of environmental education. The title of the conference will be: "Structures in action".

The target group of the conference consists of:
a. trainers of teachers and other educators.
b. workers in environmental education, primarily in schools but also in other environmental education institutions.

The total number of participants will not exceed 100, coming from EC-countries, EFTA-countries and Eastern Europe countries. Apart from own travel cost, a registration fee of Dfl. 100,- (approximately \$ 50,-) must be met. Delegates have no further costs for participation.

Application is only possible by sending an application form. For more information and application forms send to:

Conference on EE
Hogeschool Rotterdam c.o.
c/o Mrs. Dr W. Lutgerhorst
P.O.Box 2680
3000 CR Rotterdam
The Netherlands

The video of the fourth conference of Caretakers of the Environment International in Bristol is now available. Throughout the message of the 30 minute film is positive and hopeful. Jonathan Porritt together with, amongst others, environmentalist Chris Baines, narrator Anita Roddick of Body Shop fame and Peter Wilkinson, ex-director of Greenpeace, keep telling the viewer that it is not too late to save planet Earth provided everyone can be persuaded to

play their part and to do so soon.

In 1989 pupils and teachers from all over the world representing 37 countries gathered in Bristol for a Caretakers of the Environment conference with the theme of "Conflict or Cooperation?" at which the video was made. In 1992 a similar gathering will take place in Portugal to examine "Tourism and the Environment".

The video can be ordered through **The Wildfowl and Wetlands Trust, c/o Kim Stiles, Slimbridge, Gloucester, GL2 7BT, England.**

Eastern Africa Environmental Network

Museum Hill Road
Museum Hill Center
P.O.Box 20110,
Nairobi
Kenya.

May 8-9, 1992, the Eastern Africa Environmental Network will organize its annual conference in Nairobi. 11 papers will be presented during the plenary sessions. The themes of the papers to be presented in some cases will be discussed further during 12 workshops.

The aims of the conference are

- To enhance the participants' knowledge on emerging environmental issues in Eastern Africa.
- To identify practicable and lasting solutions to the existing and emerging environmental problems in the region.
- To maintain close contact with network members through the dissemination of information on the environment.

For more information please contact **Mr. Nathaniel Arap Chumo, or Mr. Charles J. Kara** at the above address.

REMEMBER JUNE 15 - 19, 1992
TROIA, PORTUGAL
VI INTERNATIONAL CARETAKERS
CONFERENCE, THEME:
'AMBIENTE E TURISMO'