
THE GLOBAL FORUM

for Environmental Education



**Global Network of
Teachers and Students**

volume 7, number 1, December 1996

The Global Forum for Environmental Education is the official publication of Caretakers of the Environment International. The International Board consists of president Arjen Wals, the Netherlands; vice-president Raymond Jowett, Scotland; treasures Ed Radatz, USA; director/networking Fatima Matos Almeida, Portugal; director/communications Ludmilla Polozova, Russia; 1997 conference board representative Betzalel Cohen, Israel.

Colofon

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Picture from the flyer of the 1997 CEI conference in Israel.

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Notes for contributors

First of all, we welcome contributions, whether it is an article, a poem or a report or anything else suitable for Global Forum.

Text

Text should be without format (DOS file or ADCII file). An article can have a maximum length of 2000 words. Footnotes should be avoided. Please accompany each article by a short summary and an address for further information. If you are unable to use a computer, we still welcome your contributions!

Tables, figures and illustrations

Do not include tables, figures and illustrations as part of the text. Gather them together in a separate file or on paper. In the text you can point out the approximate position of tables, figures and illustrations. We would also like to receive captions to the illustrations you send us. We always welcome pictures and photographs!

Deadlines

Global Forum appears twice a year in June and in December. Contributions for the June issue have to be received before May the 1st. Contributions for the December issue before October the 1st.

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world wide web: <http://environment.negev.k12.il/caretk2#program>

Editorial

A brand new year has just started by the time you will read this editorial and it is a real pleasure to wish you a very successful and beneficial 1997.

Also in 1996 Caretakers of the Environment International enjoyed a very enjoyable annual conference, this time in the conference centre Rolduc in Kerkrade, the Netherlands.

You will find a couple of reports on this event enclosed in this issue.

But also news concerning the future annual conferences in respectively Medreshet SdeBoker (Israel) in 1997 and in Waterford/Coleraine (Ireland) in 1998, is to be found in this issue of Global Forum.

Making contributions to maintaining an equilibrium between particular species and their natural habitat is a role we sometimes need to play to improve the quality of the natural environment. Bibiana Vil exemplifies this in an article on the conservation of the South American Camelids in Argentina.

We are happy to have been able to include a couple of student comments in this issue.

As well as -in line with the recommendations by the International Board submitted at the CEDER conference- a report on the national branch in the USA.

It goes without saying, that the quality and usefulness of this magazine strongly depends on the availability of contributions made by teachers and students who are not only doing wonderful work in classroom practice but who are also willing to share its results with others.

So, please do not hesitate any longer and do send us your story for publication in the next issues of Global Forum.

We are pleased that the next CEI conference to be held in Israel will have as its theme "Environment and Communication" and "linking people and nations" as its subtheme.

CEI and Global Forum can now be reached on the Internet on homepage: 'http://ramatnegev.org.il/caretakers/'. Internet users can find basic information on this site about CEI and its activities. You can also contact the editors.

Frits Gravenberch & Arjen Wals

Un año nuevo acabó de empezar cerca el tiempo leerás este editorial y es un gusto verdadero para nosotros poder desearle un muy próspero y provechoso 1997.

También en 1996 Guardiánes del Ambiente Internacional ha tenido de agradable congreso anual muy agradable, este tiempo en el centro de conferencia Rolduc en Kerkrade, Los Países Bajos.

Encontrará como suplemento un par de informes sobre este adjunto en esta edición.

Pero también se encuentra noticias sobre las futuras conferencias anuales en respectivamente en Midreshet SdeBoker (Israel) en 1997 y en Waterford/Coleraine (Irlanda) en 1998, en esta edición de Foro Global.

Contribuir en mantener un equilibrio entre especies particulares es y su habitación natural es un papel que a veces uno debe que encarnar para mejorar la calidad del ambiente natural.

Bibiana Vil ejemplifica eso en un artículo sobre la conservación de Camelids Suramericanas en Argentina.

Estamos contentos tener poder incluido un par de comentarios de estudiantes en esta edición.

También conforme a las recomendaciones por el Consejo Internacional sometidas en la conferencia de CEDER uno informe sobre ramas nacionales, en el E.E.U.U.

Va sin decir, que la calidad y la utilidad de esta revista dependen fuertemente del disponibilidad de contribuciones hechas por maestros y estudiantes que no solamente hacen trabajo maravilloso en práctica de clase pero que también están dispuestos a compartir sus resultados con otras personas.

Así, por favor no vacile más largo y mande nos su cuento para publicación en las ediciones próximas de Foro Global.

Somos gustados que la conferencia próxima de CEI -in Israel tendrá como su tema "Ambiente y Comunicación" y "personas vinculando y naciones" como su subtema. CEI y Foro Global puede ahora alcanzar en el 'Internet' en 'homepage': 'http://ramatnegev.org.il/caretakers/'

Internet usuarios pueden encontrar información fundamental en este sitio acerca de CEI y sus actividades. Puede también comunicar el 'editors'.

Frits Gravenberch & Arjen Wals

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PREPARATIONS OF THE 11TH CEI CONFERENCE 1997 in Midreshet Sde Boker, Israel

by Wim Dideren
Sintermeertencollege,
Valkenburgerweg 219, 6419 AT Heerlen, the Netherlands
tel. 045-5711664, fax 045-5715094

Fortunately, Wim Dideren and Raymond Jowett had the opportunity to meet in Israel with the organisers of the next CEI conference. This is their enthusiastic report and invitation for taking part in the next conference.

Conference location

After Sintermeertencollege in Heerlen ('96) the Environmental Education High School in Sde Boker accepted the challenge of hosting the next CEI annual conference. The community of Midreshet Sde Boker is located in the middle of the Negev desert, some 40 km south of the city of Beer Sheva, along the main road to Eilat and the Red Sea.

A unique place indeed to host the 11th conference. This small community encompasses the Sde Boker Society for the Protection of Nature Field Study centre and the lower entrance to the Ein Avdat national park in the beautiful scenery of the Tzin riverbed (Wadi). Several famous educational institutes and research centres are located within 1 square kilometre. Consequently it is not a surprise that the facilities for all the conference events, housing and social events are numerous and almost designed for a CEI conference.

Host organization

The Environmental High School is a very special institute. It is a boarding school with 20% environmental education on top of the normal HS curriculum.

We are very happy to have the school hosting the conference, together with the local council of the Midreshet community. The title of the conference will be "Environment and Communication" and it is from the crosslink between those two topics where we can learn a lot. Like last year in the Netherlands the main conference theme will be worked out in 6 or 7 sub-themes.

The impact of communication between people and the potential of communication technology in environmental education will be emphasized in some sub-themes. Desert ecology and (worldwide) desertification are topics that will be on the program too next to sustainable energy resources and many others. Like in most CEI conferences all these subjects will be studied by lectures, workshops and fieldtrips.

Education

A lot of research is conducted by the desert research institute and the Solar Energy institute, both located within 500 metres of the High School.

The SPNI field school, in which we were boarded during our stay, and the Ben Gurion Memorial Centre completes the list of high profile and highly interesting institutes in this community that is almost totally devoted to education and research, as Ben Gurion wished and hoped for by his last will.

When this first Israeli prime minister asked to be buried at this place he must have hoped that visitors would be touched by mighty pull of the Negev desert and experience its vast and awesome beauty.



The Negev-desert

The desert

Your perception of the desert will never be the same anymore after you visited this place. We already experienced this unique feeling after two days. From the window of my room I experienced the incredibly brilliant colours light up in the sky during sun set: fiery red, bright crimson, and chilly

purple magenta. A parade of colours that cannot be caught by any camera. Breathtaking.

Worthwhile to get up at five every single day.

Travel

Although in the middle of the Negev, Sde Boker is very easy to get to. Air fares to Israel are reasonable, local transportation is very good.

Under normal conditions there is no need to fear any security risk in Southern Israel, at least not in the area of Sde Boker. Participants will be picked up at Tel

Aviv airport by conference shuttle. There is variety of arrangements possible as pre or postconference trips. Diving in the Red Sea around Eilat, trekking and hiking in Sinai, trips to Jerusalem, the Dead Sea etc.



Announcing a colourful '97 CEI-seminar

Registration

To obtain more information on how to register for the 1997 conference please contact:

Caretakers of the Environment, Midreshet Sde-Boker, Har Ha-Negev, 84990 Israel.

phone:
972-7-6532084
or 972-7-6532720
fax:
972-7-6556286

e-mail: negev97@environment.negev.k12.il
world wide web:

<http://environment.negev.k12.il/caretk2#program>

Conclusions

As Raymond and I experienced during our prep-visit the 11th international CEI conference will be again a very special one. The conference subject is not only very interesting but also features key issues in future environmental education for many countries. Betzalel Cohen and his team are preparing an invaluable experience in the middle of one of the most impressive and mysterious ecosystems mankind has to deal with. The facilities for the conference are almost perfect. The weather might be tough in the summer, but should nature not play its role in a CEI conference -including the climate ?! Anyway there is air-conditioning all over the place!

I think you will never again get a chance to be in a place like this and learn from it under such comfortable conditions in a well organized, professionally guided program, organized by the real professionals - the people who have learned to live there and deal with desert over the years, the students and scientists from the local educational institutes who came here to study the desert ecosystem and to communicate what they have learned to people from all over the world.

CEI is proud to have the 11th conference hosted in such wonderful setting.

Take this unique opportunity and join us at the conference: 21- 26 June 1997.

Your participation is more than welcome. Of course the organizers expect your active involvement in the conference, like every year. Poster sessions on your local projects and experience, teacher sessions and social events will be part of the program.

INSU

Angela Karikari-Mensah
Achimota Sec. School Accra

Sweet river sweet
Flowing from the hills
I am Nature's wondrous liquid
Colourless, pure and clean

In my mightiest, they call me the sea
The king of rivers
My koobi, ewurefua and tuna
Cause mouth watering drops on tables

But civilisation came
and production became pollution
Fishing the life out of me
With their DDT, dynamite and that devil toxic waste

Turning my waters into flowing poison
But as we fight to drink
sweet water sweet, we cry and say
stop polluting the rivers.

CEDER: A SUNNY OUTLOOK ON A MORE NATURAL WORLD

by Dick Gebuys
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Summary

The 1996 CEI conference brought a variety of different experiences with it for the participants. As a member of the Dutch organising team Dick Gebuys experienced both the joy of contributing to preparing the program and taking part himself in a couple of the actual conference activities. This article is Dick's flash back to CEDER in Rolduc.

Power of energy!

It was a notion Isabel Abrams used when we spoke about the conference-feeling in my own theme-group *Art in Environment*. A Caretakers' conference - like the CEDER-conference we organised this Summer in the Rolduc-centre in Kerkrade - gave her the power of energy. I could not find a better description for the wonderful kick you get working on and in a happening like CEDER.

The most peculiar aspect of the Caretakers' organisation is the opportunity to bring together people from all over the world - teachers as well as students, students in particular - and have interact on many levels and on innumerable occasions. To discover during that week that they may be unique in their cultural background, their traditions, their own views on life, but that there is at the same time so much more they share.

To realise this - it seems so little in just some words, but it is such a huge operation to get these unconscious streams seen and felt - we need an openminded atmosphere and an open-ended process. And CEDER had such a warm and nice atmosphere, like all the conferences I participated in up until now. And CEDER tried to realise many of such openended processes.

The people that were there, learned to think of their world and think of the world and to think of themselves and their relations to others. They took decisions, looked for the right arguments, made choices, realised the consequences of those choices. Finally, they were involved in a wonderful educational development, in a nice interactive way of communication.

I can take some pages that have taken an unforgettable place in my memory: the sporting event in the bloody hot hills, the starting ceremony with the complete show of our regional culture and with that beautiful moment when Karin Didden really opened

the conference with her few colourful words in the middle of all those gently waving flags in the ballet; the great country parade the second night; the exhibition and market in Sintermeerten, where people brought together the whole world in quite another way; the night in the caves, the writing down of our names to leave an ever lasting memory in



Power of energy

Valkenburg; the final presentation of all the results, projects, ideas, designs, stories, artworks, poems; the last hours when all those people from here, there and everywhere were dancing on the music of the Kerkrade-singer Paul Weelen and tried to sing his dialect words. Is there a better sign of the unity I mean: people from Peru, Ghana, Kenya, India, Portugal, Ireland, Northern-Ireland, Scotland, USA, Canada, Zim-babwe... singing the Kerkrade-dialect?

I look back at the pages of my own theme: the deliberation we had about the etches of Jan Montyn and his relation to our natural environment; the provoking ideas of Jan Deumens who tries to change typical

Western minds from always thinking that particular conditions can make art and while others can't, the meeting with the famous Belgian writer Jef Geeraerts; the walks with him in the old landscape of Hoge Venen. That particular guard who pretended to know all of nature but in fact only wanted to catch us on official, bureaucratic rules. Me, Fatima and JC losing our way and not being able to hide that we didn't mind at all, happy with the challenge to find our own place in nature. The lectures in the University, meeting writers and artists from ages ago, embracing their ideas about nature, trying to understand their relation with our Creation; the meeting with Gerhard Lentink an artist who respects nature but uses it in his very own way in his artwork at the same time. The face of Jalmar Nørdén when he discovered that that famous Dutch artist was a friend and a fellow-student of his father Jan. Realizing once again how lovely small the world can get. The amazing last two hours when we spoke about poetry, when we had to speak about ourselves, our view on life, the things we shared, the friendship we found. When we left the room in a sort of community-singing the poems of the American poet Vachel Lindsay - known from the movie 'The Death Poet Society' - "Boomlay boomlay boomlay boom..." And in the end our filling in of the open end, the working out of our own experiences: in drawing, in drama, in ballet, in poetry, in music.

The souvenirs still cover the walls in our school, cover the hearts of our memory. The Big Parade we made with all the results of our creative hour. Raymond Jowett confessed: "This is the most crazy thing I ever did, but man, I like it!"

And so did all of us. Okay, some of us were a little bit ashamed, thinking "don't you mind me to act like this, will you..." But the faces you see back on the pictures can't hide the joy we had in the way we found nature back on those historic fields of Rolduc Abbey.

Thinking of this, I very much enjoyed the speech of a representative of the small island in the Pacific. Because he brought back the way indigenous people look at nature, illustrating how close they are living with the plants and the animals, how harmonious this relation could be once we realise that our state of being is not always a state of development that should separate us from the things that surround us.

To us, Dutch people - who are not really alien to a type of arrogant attitude which makes us think that we know what good life is like, that we should tell the world how to behave, that we know what other people should do, see and say wrong - this can be a unexpected lesson. But especially for those kind it should be a moment to love.

Therefore, such a conference could and should not be the end of a process. For many people it just will have started it, started their new way of thinking.

And that is also very important. Information should not only be given and be worked on in a certain and fixed period. It should get its own place in people's minds. In other words, things that were presented, things that we said, read, thought and told, things we found out, should get a follow-up in new activities, in new projects, in new contacts. CEDER has showed us that computers are very useful for maintaining contacts, but that real contact is so much more satisfactory. Anyhow, let's look forward to more of those contacts in exchanging students, teachers and - most of all - ideas, but let's be happy in the meantime with all those technological and E-mail-possibilities we have. I'm glad to have visited Clarke and Hugh this summer in Northern-Ireland and Birgitta, Birgitta, Marianne, Ingrid and Jan-Erik this autumn in Sweden. And I'm convinced that we will have very interesting projects this and other years. But I want to wish all of you such shared experiences.

The only thing I missed was a final moment of goodbye. A big hug of all the friends. It is wonderful to organize a conference like this, to make preparations for such a program, to have all these refreshing moments of looking for solutions for newly occurring problems - that try to pollute all the happy feelings of success - to get it all over with, not in the least because of your support and thanks to a great organizing team, ... and to recover. It has been gorgeous to end up finally with that big enthusiastic company of 230 people. And ... with an awful empty feeling afterwards, thinking: this I could have done better, next time (next time?) I would not..., where have all of them gone and why, and Good Lord, what am I going to do with all the spare time and this awful too much of energy, now that they have gone?). But while doing those things, I would not have enough time for those normal things of life. So goodbye Ed, Fatima, Anagha, Jim, Raymond, Takawira, Fred and all the other friends. Goodbye to all of you, thank's for the wonderful CEDER-week. And go on fighting for your ideas, for your place in this big world, your world.

Have the power of energy!

(And where ever I can help with organizing a new conference, please let me know, you know how to contact me...).

SOUTH-EAST ENVIRONMENTAL DIRECTORY

by Andrew Cox, Newton School, Waterford, Ireland
Tel. 051-74124/73691/75670
Fax. 051-71928

This text origins from a newspaper published by the CEI national branch in Ireland. As such, it reflects nicely. A local debate on dilemmas in decisionmaking on environmental issues.

As we approach the 21st century, we should assess our progress. We have become more environmentally aware but we stop short of effective action. We mean well but convenience often wins the day for most of us. The issues become clouded with rhetoric... we are not sure whether disposable nappies are actually worse than cloth nappies. Cotton after all uses vast quantities of that most basic of all resources, water, in its production. Disposable nappies are getting thinner, using sustainable forests as a source for their padding and taking up less and less space per unit in our landfill sites.

A more fundamental question is being asked in the Third World how do we cope with the ever increasing population of the earth? We have the resources in Waterford to meet our needs.

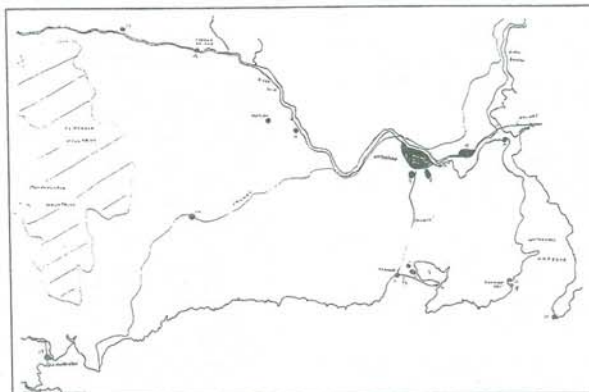
We cannot afford to waste what we are lucky enough to possess. We

have a relatively clean environment that is full of historic interest that attracts an ever growing number of tourists which in turn provides jobs. We must not cut off the hand that is feeding us by polluting the air, water and land.

We must assess carefully and rationally the impact of all developments that are taking place or that are proposed for the future.

As written in the recent Department of the Environment report on waste, the private individual stands in various different roles:

- * a person concerned about the quality of his or her environment and personal health, or about the quality of life for future generations;
- * a consumer of goods who is capable of exercising power by way of consumer choice;
- * a direct producer of pollution and waste in the home, factory, office, farm and in pursuit of leisure;
- * a person who, in the capacity of consumer or taxpayer, has ultimately to carry the costs of all waste management activities.



TITLE: LOCATION MAP

KEY:

1. SEWAGE TREATMENT PLANT
2. TRAMORE DUMP
3. BACKSTRAND A.S.I.
4. PROPOSED OUTFALL
5. PRESENT OUTFALL
6. BLUE FLAG BEACH?
7. KILBARRY DUMP
8. MUNICIPAL GOLF COURSE
9. LINEAR WALK

10. CHECKPOINT GROYNES
11. BARROW RAILBRIDGE
12. BLUE FLAG BEACH
13. HOOK HEAD LIGHTHOUSE
14. KILMACTHOMAS VIADUCT
15. CARRICK ROAD BRIDGE
16. TANNERY
17. CHEMICAL PLANT
18. LIGHTHOUSE
19. DUNGARVAN DUMP

A new bill has been circulated by the Minister which will impose new obligations on local authorities, industry and people in general to deal with the growing waste mountain which has become the unacceptable face of the consumer society. No government aid will be provided for a hazardous waste incinerator.

The EPA will be responsible for both preparing a national hazardous waste plan and licensing of all significant waste recovery and disposal activities including landfill sites! The government's stated aim is to divert 20% of municipal waste from landfill before 1999 by means of re-use, recycling and composting.

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It is a pity that the Producer responsibility concept for recycling is only to be on a voluntary basis initially. It is to be hoped that the options provided by the Bill including deposit and refund schemes, recycling credit schemes and mandatory charges by retailers for specified packaging will be fully implemented in due course.

One worrying conclusion in the Bill is that landfill will continue to be the main disposal route for most wastes though the number of sites will be rationalised from 120 to around 50 larger sites. Maybe there is hope that the long-awaited alternative to both Kilbarry and Tramore dumps will come into fruition but NIMBY! Combined with the possible closure of Tramore Dump, the new Pilot Relief Scheme for Certain Resort areas which applies from 1st July, 1995 includes Tramore. It is aimed at renewing and updating tourist amenities and facilities in designated resort areas. The Future may well see Tramore gain a coveted BlueFlag.

A glance at the recent Environment Bulletin, no.26, revealed a number of interesting facts:

- * Not one of the 34 proposals chosen under the Alternative Energy Requirement Competition run by the ESB were selected from County Waterford. The aim of this competition is to meet a government target of 75 MW of new installed electricity generating capacity by 1997 from alternative sources of energy;
- * Waterford Earthwatch received an Environmental Awareness Award to organise a competition among students Transition Year students in secondary schools in Waterford City and County on the use and abuse of plastic packaging. They were aided by sponsorship from Snowcream and the Civic Trust;
- * ENCY 1995 ... this was European Conservation Year with a theme of Nature outside protected areas. The campaign focuses on the need to conserve nature and the natural environment on the broader countryside and in urban areas. A series of events have been organised for the year in order to make policy makers, specialists and the general public aware of the need for co-existence between man and wildlife. Some selected events that I noted include a PET plastic collection to be organised by Coastwatch in June; a Public Exhibition in ENFO in September; an Irish Wetland Bird Survey from September onwards; Forest walks organised by Coillte throughout the year; an Environment Open Day at Teagasc, Oak Park in Carlow and a mid-summer Bat Count.

For more extensive information contact: Donncha S. O'Dulaing, OPW, 51 St. Stephen's Green, Dublin 2. A Clean-up-the-World Campaign 1995 is to be held from 15 to 17 September in cities all over the world, coordinated by the Dublin Healthy Cities Project.

Copies of the Environmental Bulletin can be got by contacting: Fergus Doyle, Air/Environmental Awareness section, Department of Environment, Customs House, Dublin 1.

Note from the editors:

Ireland and Northern Ireland will be jointly hosting the 12th Caretakers of the Environment Conference in 1998. Author Andrew Cox who is a veteran caretaker will be one of the conference organizers. He can be contacted for more information about the 12th conference and about CEI/Ireland.

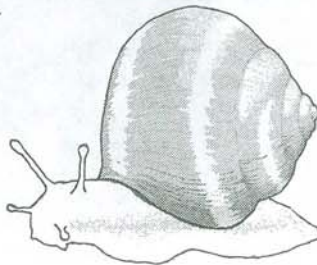
THE WONDERS OF NATURE

Osei Kwabena A.
SDA JSS Wildlife Club, Old Fafo

They usually come in their numbers
They come in during the rainy season
They have banded shell
Which measures between three and four centimetres

They withdraw into their shells
Closing the entrance with a horny operculum
This bears a pattern of concentric rings
All this behaviour, to escape from predators

This creature is a mollusc
Oh nature, you are wonderful



CONSERVATION OF SOUTH AMERICAN CAMELIDS IN ARGENTINA:
ENVIRONMENTAL EDUCATION PROJECT:
(Working with the teachers: PACHAMAMA)

By Dr. Bibiana Vilá
Profauna & CONICET, Av. Corrientes 1145, of.47, (1043) Buenos Aires, Argentina.
fax: 541-814-2611

Summary

The Puna is a high altitude ecosystem characterised by its particular flora & fauna (the South American Camelids -SACs-), and the culture of the Inca descendants. This marginal area has a high potential for sustainable development: the traditional use of the Camelids wool. Nevertheless, as the media inject western values, Coya Indians now prefer the alien cattle instead of their SACs. This decision has economic as well as ecological consequences as the Camelids are low impact grazers to the poor grasses of the Puna and have padded feet that don't erode the soil. The paradox is the high value of llamas & alpacas and their wool in Europe, Australia & USA. The project is based on continuing the basic research in SACs ethoecology, and environmental education training of the Indian teachers of the Puna with the objective of reverse the exposed situation and conserve the whole Puna ecosystem.

Introduction & general situation

The Puna (or altiplano) is an exclusive South American ecosystem (NW of Argentina, NE of Chile, W of Bolivia and Central Perú) characterised by its high altitude of more than 3500 meters above sea level, low percentage of oxygen in the air, arid climate and steppe vegetation. Puna topography consists of broad open valleys and large plains.

Temperature fluctuation is greater diurnal than seasonally, and can reach minimum temperatures of -20° during the night. There is no freeze free season and rain occurs only in summer and is very scarce (mean annual rain: 280 mm).

Vegetation has adaptations to this conditions of low oxygen, drought and cold and can be described as an open steppe. Despite these conditions some of the most successful ungulates in

the subcontinent lives there: the South American Camelids (SACs). The group has four living species, the wild vicuña (*Vicugna vicugna*) and guanaco (*Lama guanicoe*), and two domesticated by the Incas, the llama (*Lama glama*) and alpaca (*Lama pacos*). These animals are smaller than their Asian relatives (the dromedary and camel), and they don't have a hump, but they share with them adaptations to arid environments.

South American Camelids are environmental low impact grazers as they have digital pads that do not damage vegetation or erode the pale loose soil of the area; they have a prehensile split upper lip that they use to select certain parts of the plants; sharp incisors that cut the vegetation and leave the roots and a specialised rumen that permit a more efficient digestion of the low protein/high fibre pasture in the Puna. They also have a unique fleece that makes them able to live in a place with dramatic changes in temperature during the day.

The vicuña is one of the most valuable species of large mammals in South America not only for its intrinsic beauty, unusual social behaviour and special adaptations to a harsh altiplano habitat, but also for its strong link with the Andean people and the coya culture. Due to the high value of the vicuña's wool, it

has been heavily exploited which has almost caused the extinction of them. As the others SACs, the vicuña have been associated with the Andean people for more than 10.000 years. Before Spaniards arrived in America there were about 2 million vicuñas in the Andeanarea. At this time vicuñas prospered in their natural habitat, and the problems of extinction began



Working with people in the field

only with the Spanish colonisation. The number of vicuñas decreased at such a rate that it caught the

attention of Simon Bolivar (the American liberator) and in 1825 he introduced one of the first laws protecting this animal. In 1970 there were only 10000 animals left as the whole world population. Now, numbers are happily growing (about 160.000) and the vicuña is one of the seven species (including the guanaco, the other wild SAC) selected by the FAO for a sustainable development plan in Latin America. In the Argentinean Puna, the vicuña are protected and classified in Appendix 1 of CITES because of the lack of infrastructure in the reserves to eliminate poaching. But, as numbers are recovering, some provinces are trying to change the status to CITES II. The northern guanaco subspecies is also endangered and protected. So, the situation of the wild SACs in the Puna of Argentina is the one of protected animals living principally in reserves.

The two domestic SACs have another story. According to archaeological material, the most recent hypothesis from Wheeler is that guanacos are the ancestors of llamas and vicuñas the ancestors of alpacas. The domestication took place among 7000-6000 years ago, by the pre-Inca cultures in the Junin plateau in Perú. The Indians used meat and wool from the domestic Camelids, lama and alpaca and from the wild vicuña. Because of the climate characteristics of the dry Puna in Argentina, there are very little alpacas here but we have excellent groups of llamas.

Although NW Argentina was the southern limit of the Inca empire with a healthy and big coya population, now there are 140.000 descendants left, in a country of 32 million people. On the contrary, Perú, Bolivia and Chile (the other countries that have Puna eco-system) have majority of Indian descendent populations. So, to be "Indian" in Argentina means a great difference from the rest of the country (mostly Europeans descendants). This situation gets worse with the increasing exposure to the media and the pressure from "western" culture. Now, the coya people in the Andes value cattle more highly than the native Camelids even though they are not so well adapted to the harsh conditions of the Puna. Numbers of llamas are decreasing while cattle, sheep and goats are increasing. Native breeders reserve best pastures

for the livestock and leave llamas in marginal areas. People are advised not to eat llama meat because they link it with the derogative idea of: "it is of Indians"... This situation has ecological and social consequences as both the wild and domestic South American Camelids are well adapted to the Puna and have valuable wool. But, alien cattle make its owner feel "richer", and truly he/she is as the prices in the Puna are quite different from (for example) New Zealand, or USA where a llama or alpaca is much more valuable than the common domestic animals.

The need

People in the Puna area need to make long-term decisions on land use and which livestock to maintain. This requires an understanding of local ecology, conservation and development options and specially of the consequences the different alternatives have on people, wildlife and the environment.

The environmental situation of Camelids in the Puna can be summarized in three points

- 1) There are wild Camelids populations protected and the campesinos think they are a pest that compete with live-stock.
- 2) There are llamas that are undervalued by native campesinos.
- 3) There are alien cattle, sheep & goats that destroy pastures and soil but make their owner grow in social status.



Making observations

goddess)

The initiative

Environmental education is one of the right tools to use in the Puna area because there is a great problem of transculturalization of values, that include nature. This project helps to support an indigenous conservation education programme. "Environmental education should not be just one more subject to add

This is the kind of situation where a conservation holistic approach is necessary. The project includes basic research on (a) an evaluation and research of biology and ecology of vicuñas in protected areas (there is a project starting in the Pozuelos reserve) and: The environmental education programme (Pachamama, mother earth

(...) Its subject-matter should permeate every part of formal and no-formal programmes and constitute one and the same continuous organic process (...). The central idea is to attain, by means of growing interdisciplinary and of prior co-ordination of disciplines, a practical education oriented towards a solution of the problems of the environment, or at least to make pupils better equipped to participate in decision-making" (Final report, Tbilisi Conference).

Strategy

Care is taken for a flexible and not invasive plan to become accepted by the target audiences. The initiative targets primary school teachers because in the area most of the people have just primary education. Local coya houses made of mud (ranchos de adobe) are very isolated and distant and some children have to ride mules several hours to school. Some of them live in the school during week days while others go to school because they receive food at midday. In this scenario, the teacher is a kind of "local authority" that usually is involved in more things than just teaching children. Because of the conditions of remoteness and isolation of the area the teachers and directors can play an important role in the environmental education out of schools grounds.

By working with teachers, trainee teachers and children and using their own cultural heritage (legends and stories told by old people living locally), I try to encourage children to value Camelids as a genuine resource that belongs to the Puna. *"The training of qualified personnel is a priority activity. This holds good for both pre- and in-service training, for the purpose of familiarising teachers in formal education and organisers of non-formal activities for young people and adults."* (Final report, Tbilisi Conference).

I run 6-days intensive courses of environmental education based on the problems of the area: By working with pre-service and in-service teachers a concentrated effort can cause great results. Three courses had been run (two in 1995 and one in 1996) and two courses will be held in the next months. More than 140 teachers have been trained in Environmental Education as well as basic principles of ecology and description of the Puna ecosystem. Through preliminary discussions with students I realised that they needed information about science teaching pedagogy and environmental education. The short duration and intensive form of the courses are specially designed for teachers who have to travel and stay in the area. I have sent all the formal letters to the Ministry of Education in the Provinces involved and they accept these intensive courses, as the more efficient way to increase teacher's preparation. Some of the courses are run in the winter school holidays. The courses give "points" that are necessary for the teachers as a way to increase their CVs.

Teachers receive training in ecological concepts, regional aspects of conservation, importance of local wildlife, respect of traditional use of nature by Indians, and will have direct input on the creation of a local conservation curriculum. The teacher's influence can be used as a tool for increasing the understanding of nature through teaching the vital ecological concepts that underlie the decisions people make in their environment. (In the primary schools texts the examples are *always* with pampas vegetables and African fauna, meaning a divorce of what Indian children see and formal education).

The risk of working with the people in that area is that they are "full" of imposed projects from anthropologists and charities. The idea here is just start working with local teachers and then, through them, continue with the environmental education programme.

The courses start with standardised questionnaires allowing statistical analysis of the data and checking the concepts teachers have on ecology, natural and artificial selection, socio-cultural and natural environment. We work hard on this theoretical concepts through ludic activities (human pyramids, gaming, acting) and we prepare some controversial issues such as the project for a vicuñas reserve or the exploitation of minerals in the area. We have a nice day out (if possible with camelids on view) and we work on "flowing learning" activities. In the end teachers are asked to fill out the questionnaire again and compare the "before" and "after" of the course. It is great how through good pedagogical steps they can learn things that they thought the new but they did not.

Resources: There are several beautiful legends on South American Camelids and their relation with people. Indians there believe that wild SACs belong to Pachamama (Mother-earth goddess) meaning that they have very strict conservation practices for them, while Pachamama give the domestic ones, llamas and alpacas to the people to use them. There are several anecdotic stories about Pachamama defending her animals that can be written down and illustrated as children's books. Video recordings and audio-visual resources are used intensively. The idea is to bring teaching aids (educational games) favouring action-oriented teaching. All the activities are prepared with the "think globally, act locally" slogan in mind. Teachers in that area have no written material to study conservation. All the material presented are checked and modified in relation with the suggestions the teachers can make.

The long term

As described before, the programme is flexible, that means that it has a constant evaluation, a feedback from teachers and subsequent changes over time. I am on a constant lookout for local people with the right

attitude to take the programme a step further. That means that although in an initial phase I will prepare and dictate 100 % of the courses, this percentage will be decreasing and finally the idea is that I will prepare writing material, coordinate the activities and help to set up a network of Puna teachers as a SIEMBRA activity. Hopefully the courses will be run together with the teachers.

The Pachamama initiative follows the recommendations of:

** South American Camelids: An action Plan for their Conservation (IUCN/SSC) pg. 4: "The long term survival of the SACs depends upon: 1. The provision of adequate protection and management of natural habitats (...) 2. The development of different land use patterns that will enable local human communities and SA wild Camelids to coexist in harmony. 3. Greater public awareness of the value of, and need for, conserving the species."

** Agenda 21 (the United Nations Conference on Environment and Development, the Earth summit in Rio, June 1992).

** World Conservation Union (IUCN) Commission on Education and Communication.

Outcome: The expected outcome of this project will be an increase in herds of Camelids, and a decrease of "alien" animals in the Puna. This may include helping the indian communities in selling the llama wool at fair prices (one problem in the Puna is that only one or two wool traders reach that area every year) and help them selling their handcrafts made of llama wool that are really beautiful. This has economical as well as ecological consequences. One important point also is the respect for the right of vicuñas to graze and run free in the Puna area.

Acknowledgements: I would like to thank the Fundación Antorchas of Argentina. I made the courses free to the teachers through a grant from them. I also thank the authorities of the Jujuy, Salta and Catamarca provinces and the teachers who participate in the courses. I am grateful to Marcelo Cassini for his constant help.

Bibliography

References available from the Global Forum secretariat upon request.

TENTH CARETAKERS CONFERENCE

Report of teachers' session held on June 12 1996

by Raymond Jowett and Frits Gravenberch

p/o Dyce Academy, Riverview Dr., Aberdeen, AB2 0NF, Scotland.

Summary

Like in previous CEI-conferences the teacher-participants met also at the CEDER conference to share views, ideas and teaching experiences that occurred in 95/96 school year. This report summarises the major outcomes of the meeting.

The discussion during this session was based on results of a questionnaire which had been circulated to delegates at the start of the conference. The results of completed questionnaires were analyzed and formed the agenda for the session. The purpose of the questionnaire was to identify the priority interests of delegates in order to help plan the future direction and plans of Caretakers International.

The questionnaire contained two main questions. The first of these was

1. Which topics would you like to see addressed during the Teachers' Session itself?

Three clear priorities emerged from the questionnaires which had been returned.

These were:

- a. Developing cross-cultural school links in environmental education.
 - b. Publishing in the Global for Environmental Education.
 - c. Establishing National Branches of Caretakers.
- During the session each of these topics was discussed.

a. Cross-cultural School Links

It was clear that a number of the teachers present at the session had experience of such links and two examples were described briefly.

- Sweden/Russia - this project involved secondary schools in Sweden and the Russian city of Murmansk in monitoring air and water pollution. Information was exchanged by a variety of means; conventional mail, e-mail and fax. It was considered to be vitally important that the project had a 'student focus'.
- Belgium/France/Portugal - this project focused on how far e-mail and the Internet is serving the environmental education community. The results of the project are to be discussed at a three day meeting in Brussels. The aim of the project is to

establish resource centres in the participating countries to facilitate this type of project.

There was considerable enthusiasm for the potential which the Internet offers in developing cross-cultural links in environmental education. However the difficulties of Internet access in many countries of the South was recognised to be a major obstacle in making such projects genuinely inclusive and open to all. The particular difficulties of Indonesia were highlighted during this discussion. Various ideas for cross-cultural projects which could be organised by Caretakers International were suggested.

These included:

- Lichens as monitors of air pollution.
- Invertebrates in rivers.
- Projects which lead to value clarification in environmental matters.
- Political issues in the environment.

Finally it was suggested that as the 11th Caretakers conference to be held in Israel in 1997 has as its theme 'Environment and Communication', and as it will have a technological dimension, then it may be possible to develop the issue of cross-cultural links in some way within the conference. It may be that the conference could form the starting point for a longer term Caretakers project which aims to involve schools in various countries.

b. Publishing in the Global Forum for Environmental Education

The purpose and background to the Global Forum was explained. The discussion which followed resulted in some suggestions for the editors of the journal. These were:

- Presentation of National Branches - national Branches are asked to send in a short article which includes: aims and objectives of the national branch, major activities offered to schools, information concerning successful approaches to implementing projects. (Joke Wals will provide a list of national contact persons).
- Student evaluations of the 1996 conference - teachers are invited to stimulate their students to write a brief article to present their major impressions of the conference activities as well as their suggestions for improvement to the organisers of the next conference.
- Student visions of the future - teachers are invited to stimulate their students to present their views/expectations/images of the future. (Isabel Abrams guidelines for this task are available to everyone).

- Information exchange among teachers - teachers are invited to send in articles which describe projects still in progress or recently completed.

Ideally articles should stimulate the establishment on international co-operation and information exchange in various ways. Joke Wals will provide a list of e-mail addresses to be published in the next issue of the Global Forum, this will be updated regularly. It was also suggested that the establishment of a Caretakers International World Wide Web page would be a good way of stimulating information exchange among teachers.

c. Establishing National Branches of Caretakers

Delegates were reminded that one of the aims of Caretakers is to establish National Branches of caretakers in order to promote environmental education. Such branches have now been established, or are in the process of being established, in a number of countries.

During this session very brief outlines were given of the activities of some national branches. These included: Canada, Portugal, the USA, Sweden, the Netherlands and Scotland. These branches are at a variety of stages of development and each had its own particular characteristics. What was noticeable from the discussion however was the enthusiasm that exists for the development of national branches of Caretakers.

Guidelines for the establishment of national Branches are available from Joke Wals, Secretary of Caretakers International.

The second question on the questionnaire was:

2. Which themes in environmental education interest you most?

Again there were three clear priority themes in the responses received.

These were:

- a. *Teaching strategies in environmental education.*
- b. *Action taking and problem solving in environmental education.*
- c. *Integrating environmental education into school curriculum.*

Due to shortage of time there was no opportunity to discuss these responses.

However the International Board will discuss any possible plans for the development of these themes through the activities of Caretakers International.

All teachers are also invited to send articles, questions or examples to the editors of the Global Forum describing or asking about experiences in relation to these themes. This is one of the major purposes of the Global Forum and we should take advantage of it as a means for sharing ideas and raising questions.

CARETAKERS OF THE ENVIRONMENT INTERNATIONAL Short report

Caretakers of the Environment International (CEI) 10th Anniversary
by Isabel Abrams
2216 Schiller Ave., USA Wilmette, Illinois, 60091

The Conference on Environment and Development in Education and Research (CEDER) was held in conjunction with United Nations Educational, Scientific and Cultural Organization (UNESCO), from June 9th to 16th, 1996 in Sintermeertencollege in Heerlen, The Netherlands.

Report of the conference

Delegates from 34 countries - including Netherlands, Portugal, Germany, Russia, Indonesia, Pakistan, Kenya, Ghana, Zimbabwe, Canada, USA - attended the conference. 25 schools were represented. Teachers and students from various nations toured the countryside in groups of 40. Each group explored one of 7 themes and summarized their work with songs, sketches, models and artwork at closing sessions.

Group 1 *Industrial Development* - visited local factories. Presented a strategy for and a model of a 21st century factory.

Group 2 *Developing Environment* - visited mining areas and observed how it land was transformed into tourist area. Presented this information.

Group 3 *Energy* - examined hydropower and co-generation. Summarized ideas with a model of a waterfall and a sketch with a motorcycle (that gave off exhaust gas) co-generating fertilizer and producing giant tomatoes.

Group 4 *Environmental Education* - visited schools. Presented innovative teaching activities.

Group 5 *Art in Environment* - visited natural reserve, art school, met writers, poets, artists. Presented sketches, artwork, poetry and music.

Group 6 *The Global Neighbourhood* - visited stores and discovered the natural resources, prices and nations that produced shoes, clothing, crafts and foods. A "broadcast of ENN news" demonstrated the work and consumerism of countries in the North and South.

Group 7 *Outdoor Re-creation* - rode mountain bikes, climbed mountains, crawled caves and did rappelling. Spoke of ways to protect the environment while enjoying outdoor activities.

Social events celebrated cultural diversity. The welcome ceremony had bagpipes, songs from many

nations, a dance expressing unity, a photo-meditation on the environment and a presentation of flags from the nations represented at the conference. The following evening, students and teachers entertained the entire group with native chants, dances, cheers and songs from many countries.

From the meetings of the International Board

The Caretakers of the Environment International Board examined the 10 year history of our organization. We concluded that *CEI's strength is that it is small, informal and interactive - a catalyst for environmental action. Yearly conferences in different countries provide hands-on environmental studies and celebrations of cultural diversity. This promotes international understanding and fosters school partnerships and projects.*

CEI Board Resolutions

Raymond Jowett, a high school teacher from Scotland, will be the new Vice President. A new CEI brochure will be printed. It will contain the CEI constitution and statutes; information on how to set up a network; and how to establish a Caretakers club.

- A CEI bulletin board will appear on the Internet.
- Two national branch reports will appear in each issue of the *Global Forum for Environmental Education*.
- Students will organize a Caretakers Alumni group and follow-up plans after conferences.
- Teachers sessions will deal with ethical issues and environmental action, in particular.
- CEI will continue to expand its high school network and its interchange of information about school projects.
- CEI will encourage participation in *Seeds of Biodiversity*, *Coastal Restoration* and other international school projects.
- More CEI sessions at yearly conferences will highlight "sister projects", national networks, and contributions to the *Global Forum for Environmental Education*.

Regarding the national Networks of CEI

National networks currently exist in Canada; India; Ireland; Netherlands; Portugal; Scotland; Sweden; USA.

Other nations, such as Russia, Ethiopia, Indonesia and Pakistan are considering the formation of national branches.

Announcements regarding future conferences

The 1997 CEI conference

The 11th CEI conference *Environment and Communication: a Bridge for Peace Between Nations* will be held at Midreshet Sde-Boker, Har Ha-Negev, Israel 84990, on June 23-28, 1997.

After receiving the preliminary registration cards to the 1997 International Caretakers of the Environment Conference in Midreshet Sde-Boker - Israel, we are now preparing the program and the facilities.

To remind you: the conference theme will be:

Environmental Communication as a Bridge between People and Countries.

It will take place from the 22nd of June until the 26th of June, 1997 (and not as previously announced). Ideas, projects, presentations and posters, related to the conference theme, will be accepted until the 1st of February, 1997.

This year the conference has its own home page on the Internet - URL:

<http://environment.negev.k12.il/caretake.shtml>

We are interested in having some of the presentations presented in electronic form on this home page before the conference. If you are interested in such a possibility, please contact:

David Lloyd - Email:

negev97@environment.negev.k12.il

We are creating an electronic discussion list for the conference through which updates on the conference will be first sent. If you have an email address, please send it to: Email: negev97@environment.negev.k12.il; and we will add you to the discussion list.

The Caretakers of the Environment now has its own home page at URL: <http://ramat-negev.org.il/caretakers>. Further details will be issued in the conference leaflet No. 2, during the month of December 1996. This leaflet will also appear on the web site.

We will constantly inform you, both by email and by regular mail (for those of you who do not have email), of the progress of our preparations.

(Email: env.school@ramat-negev.org.il Tel: 972-7-565720 Fax 972-7-556286).



MIDRESHET SDE-BOKER

The 1998 CEI conference

Current Situation (8/6/1996) as reported by Andrew Cox.

This brief report represents the state of readiness of the joint Irish delegation to host the 1998 conference in Waterford and Coleraine.

Several of the major local industries were posted last week with regard to sponsorship of the conference. All of the industries have had links with the school in the past few years. Some have written articles for an Environmental Directory produced by Newtown school whilst others gave some financial support by way of advertising. Some of the finance offered will be as product rather than cash, e.g. Waterford Crystal. It remains to be seen how such products can be best used.

The possibility of running the conference revolves around the outcome of forthcoming negotiation and meeting. A deadline will have to be set of December 1996 to assess the extent of finance available.

It should be noted that a conference such as this should be eligible for a range of grants from the Ireland Fund, Co-operation North, European funds, etc. The two chief organisers will meet in August in Dublin to further this line of enquiry.

Accommodation, catering and sporting facilities in Newtown school would cost an estimated £ 12,000 IR and a provisional booking has been made with the Bursar for the last week in June 1998.

Transport arrangements have been considered and the contract is likely to be awarded to Kavanagh's Coach company and Larry O'Hara coach hire. Iarnrod Eireann have not yet been approached about transport from Waterford to the North of Ireland by train. Flights can be made to either Dublin or Shannon airport. Connections can also be made from Dun Laoghaire or Rosslare ferry ports.

Printing will be centralised but several printers will be approached soon to quote a price for all the necessary documentation. Programme arrangements have been sketched out and several agencies have offered their support nearer the time.

The Waterford support team consists of: Andrew Cox (Chairman); Gerry Jephson (Financial controller); Kieran McCarthy (Programme advisor); Jack Burchell (Programme advisor); John Medicott (Educational liaison); Angela Cox (Linguistics).

I hope that this brief report gives some idea of the state of play and that we will be in a position to welcome the International Caretakers to Ireland in 1998.

Students' Comments

D.E.A.R. L.I.F.E. Environmental Express

What is D.E.A.R. L.I.F.E. about?
by Debbie Geddes,
student of the Northfield Academy
Granitehill Place
Aberdeen, AB16 7AN Scotland

D.E.A.R. L.I.F.E. stands for
DANGER EARTH AT RISK LIVE IN a FRIENDLY
ENVIRONMENT

DEAR LIFE is an environmental group that started in Northfield Academy in October 1993. Mrs Park, Madame Williams and Ms Kelly asked if anyone wanted to form a group. There were replies from students from 1st to 6th year. We had to think up a group name - everybody had good ideas and one was picked. A couple of senior students came up with the name D.E.A.R. L.I.F.E. We asked our selves what sort of environmental thing that we could do and decided to do some environmental studies. We went on trips to conferences (to Russia for example) and little holidays as well as taking part in some competitions (we won second place in the EQ challenge in 1994). Now in 1996, our group is doing different things such as helping two senior pupils go to Holland to an International Caretakers of the Environment Conference. We are going to France with Ms Kelly and DEAP in October to do some activities with some French students. Some of the money we have raised was been used to buy the computer used to compile this news letter. We are now a big environmental group that has lasted for 3 years and, hopefully, many more to come.

Debby Geddes - the editor
John Mitchell - technical editor



WORLD OCEAN'S DAY - JUNE 8 1996

Plastics & Packaging Gillian O'Dea, Robert McNena Emma Martin NSW

From the research we carried out for our project, we discovered that reusing, recycling and reduction play an important role in the conservation of our environment.

We did not only use statistics from textbooks but also did a comprehensive survey to find out the level of knowledge the young people of the school had in relation to conservation. We discovered that the students in the school were more inclined to answer the questions put to them in the survey as "sometimes" rather than "yes" or "no". This did not give us a very clear image as to what the people surveyed really thought.

We learnt that plastics can be used in a more positive way than some of the natural resources that were used previously. For example, plastic moss, which is used to line hanging baskets for flowers, is much better for our environment than exploiting the wild moss which is removed from our woodland habitats resulting in whole species dying out. The plastic moss can also be reused from year to year unlike the natural moss. We found out how plastics are classified. PET is used in plastic drink bottles and food packaging. We were surprised by the amount of different kinds of plastics which exist..... High density polythene, low density polythene, Polypropylene, Polystyrene, Polyvinyl-chlorides, etc.

We discovered that:

- * the weight of the average PET bottle has been reduced by 30% over the last 12 years.
- * today's plastics packaging is up to 80% lighter than 20 years ago. This proves that people are becoming gradually more aware of the costs, both to the environment and to their own pocket due to packaging waste.
- * the Ring Leader programme sponsored by Safeway in the U.K. which involves primary schoolchildren in collecting the plastic ring can connectors which hold together food and drink multipacks. This programme holds competitions similar to that run recently in Waterford by Earthwatch on plastics, which helps promote environmental awareness.
- * we found out that establishments such as ENFO are very helpful and useful in providing recycling addresses and information on all ranges of environmental subjects.

Students' Comments

* plastic refill pouches represent a reduction in packaging of more than 70% in weight compared with a typical bottle of the same volume. Refill pouches also facilitate reuse.

In conclusion, we discovered that plastics are extremely useful and that they decrease waste and spoilage overall but

force opinions down peoples throats, as it only puts people off and does not help matters at all. Raising awareness is the first step to recovery.

2. Vivisection

The word Vivisection has a very sketchy definition. It basically describes any experiment that causes pain or distress to a living animal (dictionary definition).

In 1992 over 2.9 million experiments were carried out on animals in British laboratories. I understand that these tests are necessary, by law, but maybe if they were more humane it would please everyone. Even if anaesthetic was used it would make more people happy. On the other hand, there are a lot of alternatives for scientists, but animals are noticeably cheaper. In the long run it works out cheaper to use alternative methods of testing, it is just research that costs a lot. Of course this is an age old argument that has not raged for years. Arguments such as, we have progressed and animals haven't, God gave us power over animals, animals do/do not have feelings. It goes on and on, and there probably won't ever be a result, but maybe a compromise would work out well. There really is no clear answers, it is like the meaning of life and all the other questions we want or need to know.



RECYCLING MAKES SENSE!

Environmental Studies Report

Project: Beauty and the Beast.
Subject: Vivisection

by Isabella Good, NSW

1. Extinction

I was quite shocked when I found out the rate of destruction. Species are being wiped out at an alarming rate. The going figures are that by the year 2000, 15-20 % of all our Earths species may have become extinct. Gone forever. It is surprising and certainly makes one think. For example 80 Javan Rhinos remain in the world, 30 South China Tigers are still 'intact' and Brown Bear numbers have been halved worldwide since the mid 1980's. The figures are dramatic, but so are the results. It certainly made me feel that I should do something to help. My aim is to increase awareness on this subject, but I don't want to

I think animals should be used in smaller quantities and kept in better conditions. But its the same again, there is never any agreement on this case.

Breakdown on animals used in experiments.

Mice	1,448,960
Rat	833,004
Bird	220,312
Fish	138,251
Sheep	18,310
Primate	5,018
Horse/Donkey	1,492
Other mammal	1,268
Other carnivore	273

Environmental Briefs

From the national branches

Caretakers of the Environment International/USA
by Isabel Abrams,
2216 Schiller Ave.,
USA Wilmette, Illinois, 60091

History

Caretakers of the Environment International/USA (Caretakers/USA) is a non-profit, tax exempt, non-governmental organization. It consists of high school students and teachers who think globally about ecological issues and work locally on community projects.

Caretakers/USA is modeled on and affiliated with Caretakers of the Environment International (CEI), established in 1987 as a foundation in the Netherlands. CEI now has groups in 60 countries and national networks in USA, England, Netherlands, Portugal, India. Members communicate through the CEI magazine *The Global Forum for Environmental Education*.

Yearly Caretakers conferences: 1987 - the Hague, Netherlands on *The Sea: Pollution of Protection*; 1988 - Valsain, Spain on *Natural and Cultural Heritage*; 1989 - Oak Park, Illinois USA on *Technology and the Environment*; 1990 - Bristol, England on *Environment: Conflict or Cooperation*; 1991 - Cusco, Peru on *Environment and Development*; 1992 - Troia, Portugal on *Tourism and the Environment*; 1993 - Truro, Nova Scotia, Canada on *Natural Sources and the Environment*; 1994 - Aberdeen, Scotland on *Sustainability*; 1995 - Murmansk, Russia on *The Arctic and the Environment*.

Achievements

CEI was an accredited organization at the *Earthly Summit*, honoured by the *Global Assembly of Women and Environment* and by *Renew America*.

Caretakers/USA was established in 1990 with offices in Arizona and Illinois. All Officers and members are volunteers. Caretakers/USA chapters include 26 high schools in 11 states and one territory. It reaches members through computer networking and a newsletter.

1994/1995 Achievements

- Certificate of appreciation: President's Council for Environmental Sustainability
- Honoured as Success story: *Renew America*
- Caretakers/USA worked with *Tree Musketeers* and hosted a July youth summit in Utah.

- Meetings with delegates from Chicago Academy of Sciences, NAAEE, City of Chicago Dept. of Environment, and urban environmental educators.
- Participation in Chicago Wilderness meeting.
- Participation in development of Urban Environmental Education programs.
- Restoration of a section of the Chicago River.
- Caretakers/USA presented workshops at *National Association of Biology teachers*, and *National Science Teachers Association* conferences.
- A presentation on Caretakers/USA was made to the Council of State Science Supervisors.
- Proposed that youth be involved in environmental work to Gertrude Mongella, secretary, and to the leaders of the US. Delegation to the 9/95 Fourth World Conference On Women.
- Listed in Best Friends Animal Sanctuary, Kanab Utah 84741 Nathania Gartman, Education Coordinator database.
- Assist in Envirothon in California.
- Presentations to New Trier High School - Winnetka, IL, Amundsen High School - Chicago, IL, Warren Township High School - Gurnee, IL.

Environmental education for biodiversity

University of Bradford
BO7 IDP England

Two Dutch institutions, the Department of Biological Sciences, Utrecht University and the Department of Agricultural Education, Wageningen University, are to join together in the running of a major research project.

The project, which aims to examine the underlying assumptions, values and ethics related to biodiversity, how biodiversity relates to cultural diversity and to identify the scope for using biodiversity as a theme within education, will be divided into two phases. A blue-print for education about biodiversity will be produced by the completion of Phase 1 and during Phase 2 will see the translation of this package into a range of teaching materials.

The project will also evaluate the impact of teaching and learning about biodiversity on teachers, students, curricula and the school as an organisation. Further, in order to expand the research base, the project hopes to include a cross-cultural dimension by examining cultural perspectives of biodiversity and the potential for using these differing views in teaching and learning programmes.

Environmental Briefs

Institutions interested in becoming involved in this project as a partner should contact the address below.

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Fighting a just cause

Out: NKO The Parrots Magazine of the wildlife clubs of Ghana vol. 7, no. 2 '96

By V.A. Nuhu, GWS

Recent inflow of congratulatory messages from both British children and adults to the president of Ghana, after viewing the film 'Animal Detectives' based on Ghana Parrots on British Television call to mind an incident which took place nine years back.

It was one sunny afternoon in July, the Wildlife Clubs of Ghana (WCG) was only 15 months old and a little over two hundred of its young members from Gt. Accra and Central regions visited the Accra Zoo. The purpose was to see the over 2000 West African Grey Parrots (*Psittacus erithacus*) rescued from the Kotoka International Airport. These were to be smuggled to the USA. The Club members were disgusted at the small cages into which the parrots had been packed, resulting in the death of several of the parrots through suffocation and stress. As a result of the visit Club members took the opportunity to tell the nation their feelings and opinion of such a nefarious act.

The members expressed in no uncertain terms their disgust for the cruel treatment given to these birds. In a petition sent to the Government through their National Patron Lt. Gen Arnold Quainoo, they called for very stiff punishment for the illegal exporters. As a result of this incident and the attention given to parrots, the West African Grey Parrot became the emblem of the Clubs instead of the original proposal of an Agama lizard with a broken catapult. The reason being that if parrots could make so much noise to demand their freedom from cruel captivity, then Club members could as well become 'human Parrots' by talking to friends, relations, strangers etc, not to be

cruel to wildlife which supports life and help conserve it. Remember, the motto of WCG is 'Wildlife is Life'!

The members decided that henceforth they will fight for the wise use of all wildlife and defend the cause of the West African Grey Parrot - the beautiful red tailed Grey Parrot whose ability to learn to speak and imitate human communication has earned its very high price on the international pet market. Ever since that day, the WCG has not relented in its efforts to decry unjust treatment and abuse of wildlife.

On the same day that Clubs objected to the trapping and smuggling of parrots, they saw little Julie, the chimp smuggled into Ghana from Liberia by an unknown person. Club members have since sent out hundreds of protests and petitions, to Air Afrique, the leading carrier of wildlife trade and to the US State Attorney of California over the case involving Richard Fuzar, who used to deal illegally in bird trade from Africa. Mr. Fuzar is believed to have imported over 700,000 birds since 1985, of which about 106,530 died in transit. The petitions from the clubs contributed to the sentencing of Mr. Fuzar in 1993.

The Parrots urges us on to defend wildlife ...

Out: NKO The Parrots, Magazine of the wildlife clubs of Ghana, vol. 7, no. 2 '96

The clubs do not only concentrate on parrots or wildlife when writing petitions. On March 7 1995, over 400 club members in Accra advocated for the wise use of the country's wetlands. Wetlands help to check flooding and also support wildlife. They also provide breeding grounds for the fish that forms the main source of animal protein for man.

Thus, the use of the West African Grey Parrot as our emblem and its Akan plural name "Nko" as our magazine proves our intention. Nko (The Parrots) urges us on to defend wildlife, if the adults of today who have only borrowed the earth's resources from us and future generations would not act responsibly towards wildlife. We are ready to fight for the proper management and wise-use of wildlife and the natural environment to guarantee improved quality of life for all old, young and future generations. We would not wish to be accused of the same negligence for which we are accusing our parents and grand parents.

So brothers, sisters and friends do not sit on the fence, join us in protecting the environment and wildlife to make Ghana a better place.

Environmental Briefs

"Young reporters for the environment"

out: Sout-east environmental directory,
a newspaper published by
the CEI national branch in Ireland

Schools throughout Ireland are taking part in the "Young Reporters for the Environment" project at local, national and European level. This project is aimed primarily at Transition Year students. The objectives of young Reporters is to investigate and interpret environmental issues through a science based project and communicate their results to other interested schools and the public in the most effective way they can. Beyond their own country the students communicate with each other through computers and Electronic mail.

An Taisce - The National Trust for Ireland launched the project in October 1994 and 15 schools are participating at present. We realised from the onset of this project that many schools would not have a computer and a modem available to connect by E-mail to other schools

In response to this the Local and National award required the students to:

1. Complete an approved project on any aspect of the environment in the locality of the school.
2. Explain their study and its findings.
3. Communicate the results to the general public.

An additional requirement for the National award would be communication with other school in Ireland via E-mail to compare the findings of their projects. The European award requires:

1. Completion of an approved project which may or may not be of a general nature e.g. for 1994 the theme was energy.
2. The school joins the Young Reporters for the environment programme and using a computer

modem, becomes connected to their computer centre in Copenhagen.

3. The results and findings of the project are then shared with other schools in Europe, an exchange of information and possibly students may follow. In some cases the students may be chosen to go on scientific missions.

As part of the Young Reporters project this year three students from Donahies Community School in Dublin won places on three scientific missions. Gillian O'Hara joined a ship off the coast of France where scientists are studying ocean and atmosphere in relation to climate change. Gillian Clifford flew to Moscow to study a United Nations project on Energy Efficiency and Geraldine Brennan went to Superphenix, a research nuclear reactor. While on these missions the students gained an insight into the daily life of these

scientists. They transmitted their daily reports on the computer network and guided their investigations according to the reactions received from corresponding schools. We had hoped that Newtown school would be able to participate in the European Award this year but we were unable to get them connected to the E-mail. However they have participated in the local Award and we are looking forward to seeing the results of their projects. We hope that they are able to participate fully in a European project in 1995-1996 schools year.

The "Young Reporters for the Environment" project is the Brainchild of the Foundation for Environmental Education in Europe (FEEE), the organisation which initiated the blue Flags for Beaches Award. It is organised in Ireland by An Taisce and supported by the Irish Energy Centre and the Department of the Environment.

For further information on participating in this project please contact: Denise Maloney, An Taisce, Tailor's Hall, back Lane, Dublin 8.
Tel: 01-4541786 fax: 01-4533255.



Environmental Briefs

Flooding over Europe Newssad Joint Educational Project

By Andrew Cox, Nr. Ireland

This Joint educational project was compiled by students from Stedelijke Scholengemeenschap in Roermond, Netherlands, Albrecht Durer Gymnasium, Hagen in Germany and Newtown school in Waterford, Ireland. 30 pupils from Newtown visited Roermond and Hagen during February 1996. Reciprocal visits to Ireland were paid by ADG in October 1995 and by Stedelijke in April 1996. This project is the fruits of their labour. The overall theme for the exchanges *Water and its influence of human activity*.

This is involved a study of the rivers Suir, Ruhr/Lenne and Maas/Roer. Subtopics included the history of settlement, place names, industrial location and the environmental problems caused by man's interference with the natural order of things.

For the CEDER conference, 2 students were selected from each school to work in more detail in the topic of *Flooding* which seemed to be a major environmental problem caused by development of the economy. One of the conclusions drawn by the students is that a great deal of co-operation is needed between the various players particularly where political boundaries are crossed. The students gained information from state bodies, water boards, local authorities, mass media, environmental agencies and big business.

Careful scientific recording of data is vital in trying to predict nature. It is vital to record rainfall totals, snowfall amounts and rates of flow to try and model what happens when flooding occurs. Man must be careful as he meddles around with the river profile. He often does not understand what the results of his actions will be or maybe he does not care. The depth, the width and the shape of the river must all be carefully considered. In Waterford, the draining of part of the marshy catchment of the river Suir has exacerbated the worsening problem. The river where it flows through the city has been narrowed by the construction of carparks and now that fewer ships dock here, less dredging is being to keep the channel open.

On the Lenne, a major tributary of the Ruhr, there is a need to reconsider the role of Dams such as the Bigge in controlling the speed of runoff from the catchment area. On the Maas, the winning of gravel and sand must be reconsidered as to it's long term effects on the river. The over-riding solution in all the

areas studied was the need to re-create and preserve buffer zones to prevent run-off flowing directly into rivers the moment it precipitates.

Our recommendation is to give Nature a chance and forget about high-tech solutions to what is basically a simple problem!

The CEDER is growing

by Wim Dideren, chairman Cedar oc.

Two days after the official parts of 10th international CEI conference "Ceder"

we still had some special guests around. Delegates on special invitation of

Unesco and/or the students of Sintermeertencollege like from Ghana, Kenya, Indonesia and Peru stayed a little longer to benefit even more from their stay in the Netherlands.

That also made it a little more easy to cool down slowly from the great experience

Ceder was for all of us here at SMC.

Together with these guests we planted the Cedar tree ("Ceder" in Dutch), that was presented to the school by the Cedar participants, at a special place behind our school. The best place we could give it for let's say the next two hundreds of years!

This Cedar will remind this area to the Cedar conference for a long long time.

As organizers we look back at a very successful conference. Over 200 participants

from some 30 countries worked together as one big family for almost a week.

Plans have been made and first steps had been taken for several environmental

projects in this area and projects between several participating schools thanks to the Cedar conference.

So (the) Cedar is still growing.

It was a hard and long way to go to get it all set up. Thanks to our great team,

the generous support of all the organizations and sponsors behind us and last but not least all the contributions of the participants Cedar was a great and successful experience.

The final report on this 10th CEI conference will be published in early 1997 and mailed

to participants by then. If you have any special thought, materials, pictures etc.

to include in this final report, please send it to us.

Environmental Briefs

Euro-awareness project completed

ERTCEE news issue no 15 spring 1996

The preparation of an European module on in-service environmental education suitable for use in European secondary schools (the MESSAGES Module) is now completed. The Module aims to present a blue print document to assist the process of professional development for secondary level teachers of all subjects in environmental education throughout Europe.

Designed essentially for facilitators of secondary level in service courses, the module includes a number of photocopiable sheets, activities and guiding information, examining topics such as the origins and concepts of environmental education and dealing with controversial issues, as well as descriptions of some European case studies. It also includes examples of bibliographical references available in some EU countries.



Partially funded by the European Union (DG XI), MESSAGES was designed by a number of teachers, teacher trainers and practitioners from the European Union.

For further information, please contact Walter Leal Filho, Project Co-ordinator.

Create your personal vision of the future

Caretakers of the Environment International Conference, Heerlen Netherlands 6/96
(Adapted from: *Envisioning Your Future*, The Futurist: May-June 1996 pp.14-19 by Isabel S. Abrams)

Your personal vision of the future comes out of dissatisfaction with the way things are now and the strong belief that things don't have to be this way. To create your personal vision, think of what is possible, not simply what is likely to happen in the future. Base your vision on your highest ideals - of peace freedom, justice, happiness, self-respect, etc - your highest goals. Then decide on your plan of action to achieve

this vision for your future. Your actions today can create the world you want tomorrow.

create a vision for caretakers on the environment international

1. What is the special role or skill of CEI?
2. How do I want to change the world for myself and for CEI?
3. What do I want CEI to be in 2005?
4. What actions can I take to achieve this vision?

create a vision for yourself

1. Think about Your Past. Lifeline exercise Write a timeline (birth to present year) with significant past events of your life. Peaks represented highs. Valleys represent lows. Identify each peak or valley experience and explain why each was important. What patterns are revealed.
2. Determine what you want. Make a list: What I want to accomplish. For each item ask, "Why do I want this?" Also answer the following:
 - a. How do I want to change the world for myself?
 - b. If I could invent the future, what future would I invent for myself?
 - c. What is my burning passion, my mission in life?
 - d. What work do I find most exciting?
3. Write an article how you've made a difference. (This helps you understand the legacy you want to leave for the next generation). Imagine the year is 2005 and you've been selected to receive an award as someone who had a major impact on the world. Describe your greatest contribution: your hopes and dreams; and what is most important to you.
4. Write a short vision statement - your unique image for the future. Make a drawing, a symbol, or a brief slogan (less than 10 words) that communicates this vision.
5. List the actions you can take to achieve your personal vision of the future.



Globe



Scope

Sustainable Development *Principles, Analysis and Policies*

I. Moffatt

Department of Environmental Science, University of Stirling, Stirling, UK

A timely, up-to-date textbook which draws together the vast literature in a logically ordered, readable style. The definitions and ethical principles underpinning sustainable development are discussed and the volume describes ways in which the concept may be applied to promote the responsible use of natural resources, and considers practical means of monitoring progress towards this aim through the use of indicators of ecological and economic welfare. Policies required to promote sustainable development are discussed and illustrated by economic-ecological modelling.

This volume, therefore, provides an excellent introduction to the theory and analysis of current thinking on the science, policies and practice of sustainable development and is an ideal text for undergraduates and graduates up to MSc level in environmental sciences, geography and economics.

To order, mail or fax to: The Parthenon Publishing Group

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Canadian Journal of Environmental Education

The Canadian Journal of Environmental Education is a refereed journal published once a year. It seeks to further the study and practice of environmental education by providing a thoughtful forum for researchers, scholars, practitioners, and post-secondary students. The publication and distribution of articles and reviews should contribute to Canadian thought and practice in environmental education and/or issues and practices of international importance to this field of study.

Articles in volume 1, spring 1996

- Environmental Education and Sustainable Development: Further Appraisal Lucie Sauvé

- Deschooling Environmental Education Anthony Weston
- "Under the Tough Old Start": Meditations on Pedagogical Hyperactivity and the Mood of Environmental Education David Jardine
- Problematizing Enquiry in Environmental Education: Issues of Method in a Study of Teacher Thinking and Practice Paul Hart
- Étude préliminaire des caractéristiques de la sensibilité environnementale chez des enseignantes actives en éducation relative à l'environnement Gloria LeBlanc Robichaud and Diane Pruneau
- Environmental Education in Schools: An Alternative Framework Chris Gayford

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Address subscription inquiries to: Canadian Journal of Environmental Education, Arts and Science Division, Yukon College, Box 2799, Whitehorse, Yukon Y1A5K4.

Environmental engineering education in Europe

ERTCEE is part of a group of institutions, coordinated by the UK based JUPITER Consortium, which is taking part in the Programme for Environmental Engineering in Europe (PREENE). The PREENE project aims to develop a module on environmental engineering for use in European universities.

In connection with this project, ERTCEE is undertaking a comprehensive survey of provisions in the field of environmental engineering in European higher education institutions. The survey will involve some 3000 individuals and institutions from across the continent. A questionnaire is enclosed in this issue of SGEE newsletter. If you have some information which might be helpful to the study, we would be very pleased to hear from you and/or receive your completed questionnaire at the German office of ERTCEE.