

# Bio News



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## Bio-Tourism

# There Can Be no Tourism Without the Bio-Environment

Tourism can be among the most important and profitable industries of any nation. As modern technology is continuously contributing to making travelling easier and more affordable, new possibilities for tourist development are opening up all over the world. However, this development should not be carried out at the expense of the bio-environment, which, unfortunately, often seems to be the case. We all need to realise that the bio-environment can be a tourist attraction in itself. After all, the most successful tourist sites worldwide are those located in areas of exceptional natural beauty. Nevertheless, tourism and environmental protection are invariably regarded as incompatible projects.

In an effort to raise awareness of the importance of incorporating environmental protection as an essential dimension in every aspect of economic and intellectual endeavour, B.I.O. wishes to draw attention to the concept of bio-tourism, a profitable and efficient way of caring for the bio-environment while pursuing new opportunities for tourist development.

In Italy, a country which boasts one of the most successful tourist industries in the world, Bio-Tourism has already been put into effect.

The following article has been compiled using information provided by ZAO Turismo e Habitat in Milan, and draws attention to some simple and effective guidelines that can ensure environmentally-friendly tourism for all.

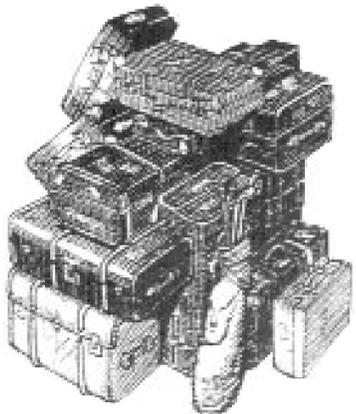
The word tourism evokes diverse sensations in all of us. It can remind us of delightful holiday getaways, but, unfortunately, it can also bring decidedly negative impressions to mind: traffic jams, overcrowded beaches, polluted seas and rivers, rubbish, dirt and poor service at hotels and restaurants. As a result, people often lose interest in travelling, and tend to regard tourism with great suspicion.

We all invariably dream of getting closer to nature: that is, nature without people. And yet this is an unnecessary simplification: our planet, which has been jeopardised by senseless human activity, could be healed if we all act intelligently and take serious action. Tourism will thus take on increasingly greater importance with regard to safeguarding the environment. Since many tourist installations are responsible for polluting and damaging the landscape, it is becoming clear that environmentally friendly management is absolutely essential. It would be naive to assume that tourist development is always negative and counterproductive. In fact, quite the opposite is true. A well-managed tourist site can offer many advantages, and can significantly contribute to enhancing our cultural and aesthetic values.

**Sustainable, Unsustainable:** Two adjectives that are extensively used by environmentalists, but unfortunately turn out to be obscure and difficult to understand for the rest of us.

Yet in everyday life, we end up using them with exactly the same meaning. A family with a standard of living which is not sustainable falls into poverty. By the same token, developmental projects that are not sustainable will, in time, lead to the depletion of natural resources. But how does one evaluate what is environmentally sustainable and what is not? None of the disciplines available could solve the problem on their own. Mathematics, physics, economics, anthropology, and the natural sciences need to question themselves, find new criteria, decide on new rules. This is becoming the real scientific "challenge" of our age.

Looking at problems from an environmental point of view is anything but easy. Extreme simplification, besides being of no use, sometimes leads to confusion. For example, should we prefer plastic bags, so we don't



need to cut down trees, or is paper friendlier to the environment? After all, plastic pollutes. When a problem is addressed badly, then the answer is always wrong. As a result, adopting a correct environmental attitude is a complex procedure. We need to establish continuous relationships between local and global situations, and work out a plan that will help preserve the natural environment during the pursuit of new opportunities for economic growth.

Environmentally-friendly tourism can be the perfect example of such a co-operative endeavour.



### THE BIO-LOGICAL HOTEL

Environmental destruction poses serious concerns for hotels and resorts, especially for those situated on sites that have been over-exploited.

As a result, the concept of quality service is being revised and starts to acquire dimensions of environmental protection. Saving energy, recycling, and reducing harmful emissions and

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## From Zero Defect, through Zero Inventory, to Zero Emissions

We have less than 2,000 days to go till the year 2,000. We have no time to waste. The time has come to realise that time is short. We must stop checking hypotheses, we must stop discussing the theories. The time has come to move boldly towards action. We must apply a military strategy from here on.

The NATO forces never needed scientific proof that the Warsaw Pact forces were going to attack Western Europe. After all, if the proof were to have been given, it would have been too late. Still, the fact that we did not have any proof did not deter us from investing 5% of our GDP for three decades, in defence. The same applied to the former Soviet Union. The leadership there never had proof that the West was going to attack; nevertheless they invested in excess of 10% of their GDP in their defence budget.

The time has come for us to behave like a society responding to the question the military leadership imposes on us: "What if?" What if the Soviets do attack us? We must invest in defence now.

Let us translate that into "What if global warming is a fact?" How should we redesign industry? What if 50% of the synthetic chemicals used today are indeed carcinogenic? We have to find alternatives now, because once it is proved that these compounds are carcinogenic or mutagenic, it will be too late.

So let us respond to the "What if?" We need bold steps, daring steps, we need a vision, we need to take risks and there is no way that we can do this on the basis of facts and figures only. We need a vision and a passion, combined with energy, to make it happen. It is very much like the military approach, motivating the public at large to react to the threat of invasion from outside.

I am too young, too forward-looking and too impatient to study the facts, the hypotheses, the theories. I believe that we must act now and cannot wait. We must translate this sense of urgency into an action plan.

**DR. GUNTER PAULI** is advisor to the Rector of the United Nations University, the Zero Emissions Research Institute, Japan. The following speech was given at the International Sakharov Festival, Athens, 1994.



The only way we can succeed in this is by taking risks and bold steps. And we need a partnership among the key actors in this world: artists, scientists, politicians, and let us not forget the entrepreneurs, those who create value added in society, a component we cannot neglect.

It is along this line of thought that I have started at the United Nations University, with the support of the Rector, a special initiative called ZERI: Zero Emission Research Initiative. This programme addresses this fundamental question: we have to convert the present system into a sustainable and humane system. And industry plays a key role in this.

Zero emissions means that industry must continue on a path which it started to take 20 years ago when it began the Total Quality Management programmes; the quest to drive out waste by offering perfect quality, i.e. zero defects. At first this programme was considered impossible. Quality then became a competitive edge, and today, if you do not have quality then you are not in the market.

Then in the 1980's, industry embarked on the Just-In-Time system, or zero inventory. It was another drive towards the elimination of waste. Now the third drive, towards the elimination of

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## Bio-Diversity in Greece: The Richest Endemic Flora and Fauna in Europe



**CHRISTOS EFTHYMIPOULOS**, an astrophysics graduate student at the University of Athens, and member of the United Nations Association of Greece, is an active participating member of the Biopolitics International Organisation. He has been specifically involved in formulating programmes for youth.

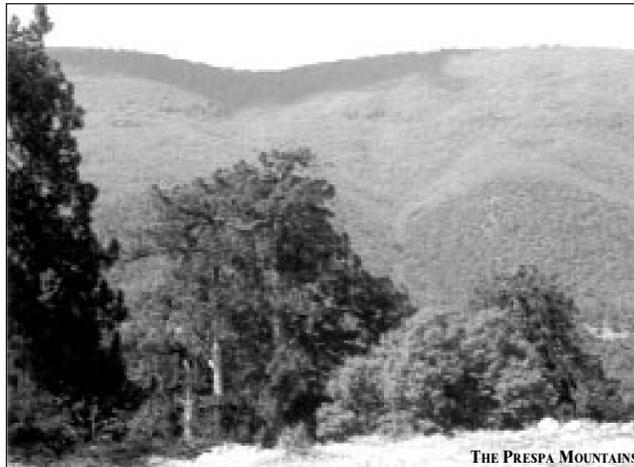
only represent 10 percent of Greek flora and fauna.

In recent years, local and international organisations have been involved in an effort to prevent species "of particular scientific interest" from becoming extinct, including:

- the Mediterranean seal

- the Mediterranean sea turtle (*caretta caretta*). The island of Zakynthos in the Ionian Sea has been identified as a location of egg hatching. But tourist activity disturbs the environment decisively. Urgent action is required to save possibly the last of these turtles.

- the Cretan wildgoat. (*capra aega-*



THE PRESPA MOUNTAINS

(*monachus monachus*). The Aegean sea is one of the last remaining refuges of this species. Government and local organisations have launched educational campaigns to protect the seal.

- **wild birds.** Rare eagle species (*argyrius monachus*, *haliaetus albicilla*, *aquila pomarina*), and also herons, live in the wetlands surrounding the Evros river, in north-eastern Greece.

*grus cretica*) survives on the White Mountains of Creta (Samaria). It is threatened by poaching.

The most important natural habitats of Greece have been placed under state protection:

1. **National parks:** with emphasis on the preservation of wildlife. National parks make up 2.6% of the total area of Greece. Some of the most important parks include

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Greece has always been known for its wealth of monuments and remnants of a 3,000 year old civilisation, that constantly attract visitors from all over the world. However, less is known about the Greek *bio-environment*, and especially Greek *bio-diversity*, which is one of the richest in Europe.

There are about 8,000 species of plants and animals in the natural biotopes of Greece. Threats to this bio-diversity have resulted from cumulative pressure for economic development, while the policies implemented by the government, in an effort to halt destructive activities over the last two decades, have not always been successful.

Eight hundred species of plants and two hundred species of animals are currently protected by law. Collecting, killing or trading any of these species is strictly prohibited. However, these protected species

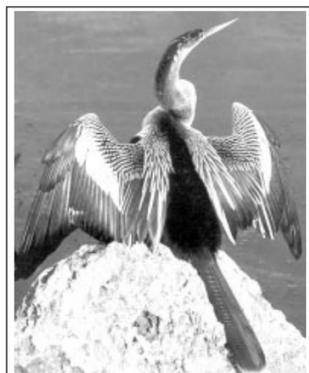
## To Zero Emissions *continued from page 1*

waste, must start. The real one: zero emissions. This is now considered impossible, too difficult, but with vision and passion it will be possible to achieve, faster than we could ever believe. This requires, in part, new technologies, but partly it also requires us as human beings to recognise that nature has the most fantastic technologies which are waiting to be discovered by human beings who, all too often, consider only themselves as the source of progress.

As I have declared war on theory, let me share some of the most practical approaches. Let me offer some concrete examples.

**Beer breweries** produce massive waste. No one makes use of the waste, only the landfills, and occasionally the cattle farmers. If it is not landfilled, then it requires energy to dry, to pack and to transport. Why not integrate beer breweries with fish farms so that ALL waste can be used? This requires the elimination of several toxic chemicals from the breweries, in particular from the cleansing systems, and some innovations in fish farming. But it is an easy leap forward, converting waste into food.

The second case is the recycling of paper. This is a polluting process. Why do we wish only to recycle the paper? Why not recycle the ink AND the paper? This requires new technologies for the separation of the ink from the fibre. If we can put people on the moon, can we not separate ink from paper more efficiently than today? There are opportunities through magnetic resonance or enzymatic systems, or we can



**B**irds know how to produce, apply and cover their feathers with wax at -40 C and also at +40 C, something which synthetic waxes, a crucial input factor for all transport equipment to reduce friction, cannot do. When will we be willing to learn from the birds?

include the colour pigments in polymers and use these for printing.

**Forestry.** Timber companies fell trees and strip the trees of their green mass. The green mass, actually the richest part of the tree, full of fragrances, colourings and preservatives, is waste. We can easily distill high value added natural products, which are excellent substitutes for the synthetic non-biodegradable ones.

**Sugar.** Why do we eat sugar? It causes

tooth decay and makes us gain weight. We have more opportunities to use sugar as a raw material for plastics, detergents and water softeners, crucial materials based on petrochemicals today. There is an excess capacity of sugar in the world and it is a sustainable source. Our research at the United Nations University, (UNU), will certainly offer new avenues, to be designed for the development strategies of developing countries.

**Birds' wax.** Birds know how to cover their feathers with wax. These fantastic creatures know how to produce and apply wax at -40 C and also at +40 C, something which synthetic waxes, a crucial input factor for all transport equipment in order to reduce friction, cannot do. When will we be willing to learn from the birds?

**Bird's feathers.** Numerous types of birds from the tropics have the most impressive colours. But these colours are not based on colour pigments, they are based on the refraction of light which offers us the variety of colours in the rainbow. We humans have developed some 4,500 colours, most of them based on toxic chemicals. If we learn how to refract light as birds do, then we will change the face of the textile and fashion industries.

At the UNU we wish to mobilise the research centres of excellence, and initiate the programme, which will formally start in April 1995. We will embark on a vast research schedule which will often change the face of industry.

The UNU will involve industry itself.

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## EDITORIAL

### Options for the Future

As the present century is drawing to a close, the Biopolitics International Organisation has been stressing the need for a serious commitment towards protecting the *bio-environment* and searching for essential *bio-cultural values* for the next millennium. In this period of *transition*, the time has come to look for new alternatives and study new models that will help uplift the spirit of humanity from its present crisis of values. Society needs to adopt new principles in order to avoid static and negative prototypes and progress toward a global bio-culture. It is imperative to redefine existing concepts and convert our present arrogant, anthropocentric society into a society that respects bio-diversity and is dedicated to the preservation and appreciation of bios.



Dr Agni Vlavianos-Arvanitis, President and Founder of Biopolitics International Organisation

This unifying vision of Biopolitics aspires to the creation of a global society founded on the spirit of co-existence. In order to overcome greed and over-consumerism, it is essential to move beyond the antagonisms of governments, nations and business, and adopt a common responsibility for preserving the *bio-environment* for the future.

Presently, the unified structure of Europe is limited by economic barriers. European Union boundaries are accepted on the basis of economic co-operation and thus preclude participation of former Eastern Block countries with suppressed economies. The new *biocentric* models promoted by Biopolitics aim to expand the concept of a Unified Europe, so as to include every European country, from the Atlantic Ocean to the Ural Mountains. These models will form the basis of a global bio-culture, and provide an optimistic, *bios-supporting* framework, on which to build a successful society for the future.

In their crucial transition to democracy, Eastern European countries have already recognised the importance of preservation and appreciation of the *bio-environment* as an essential societal value. Recent Biopolitics presentations in Prague, Warsaw, Budapest, Moscow and St. Petersburg, received great support, and the views put forward were regarded as fundamental concepts for building a new structure for society.

In Prague, the closing address at the International Geographic Union Conference focused on the importance of avoiding greed and over-consumerism. Adopting a common responsibility toward *bio-environmental* protection can provide important pathways and links for a smooth transitional period and a stable democratic society.

At the First Polish Congress on Universalism, in Warsaw, unifying concepts were shared by all participants. However, the Biopolitics International Organisation stressed the importance of maintaining unity through diversity. Co-existence based on a global bio-culture, which respects and promotes diversity, is essential. This bio-culture can lead toward a world citizenship of international co-operation for the protection of bios, and a global era of *bio-diplomacy*.

In Budapest, at the Fourth International Symposium on the World Energy System, Biopolitics views on ways to develop renewable and environmentally clean energy sources, as well as establishing *bios-promoting policies* in all aspects of human endeavour, were received as the highlight of the conference.

Finally, in Moscow and St. Petersburg, bios-promoting policy was put into effect. Day-long seminars at the Mendeleyev University in Moscow, as well as at the State Technological University of St. Petersburg, aimed to establish biocentric models and promote a *bios-oriented* approach for all educational and cultural activities.

At the threshold of a new millennium, it is time to make important decisions concerning options for the future. Is society to follow the road to destruction, to try to strike a balance through the application of sustainability principles, or work its way toward an optimistic, life-supporting structure and advance to an era of global bio-culture? □



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# Structural Economic Change and the Bio-Environment

The world economy is still expanding. If the structures of the economy remain unchanged, it is quite certain that additional resources will be required and additional pollution will be generated.

The seriousness of the present environmental crisis is crucial. Most people admit the existence of a crisis, but fail to recognise how serious the environmental problems are. According to a simple theory proposed at a recent conference in Berlin, there are two ways of approaching such problems. One is through emotions, the other through rational thinking. Considering these two possible approaches, certain stages can be distinguished, through which a society and an economy must proceed. These are:

- awareness of the problem;
- discussion of values;
- knowledge of the environment; and,
- as a consequence: new lifestyles.

From a more comprehensive point of view, not only scientific knowledge about the problems, but also a new policy in economic and technological areas need to be developed. This could include the introduction of taxes on certain resources, emission charges and the development of clean technology. These reforms would ideally result in what may be defined as an ecological modernisation of society.

## Environment and Development: The International Dimension

Seen from a global perspective, the split between North and South and East and West has resulted in very different perceptions of problems and their solutions. Not everyone has realised that a new lifestyle is necessary. Not everyone has perceived the ecological modernisation of industrial society as essential, now. On the other hand the majority of people, nations and governments would like to move from a low income to a high income level. This is considered as modernisation and development.

Unfortunately, in most cases reaching a higher income bracket has also meant moving from an area of low environmental impact to one of high environmental impact.

What, however, are the chances of reaching a turning point for this world, from a high impact level to a low impact one again? Unfortunately, most of the trends in modern society are still in the wrong direction. World energy consumption trends from 1970 until the present are all adverse. This is also true of another important input, natural resources; the use of these, with one exception, is still increasing. These trends of intensified energy and resource consumption are not sustainable in the long run.

One of the problems is that nature itself is not always friendly. Although there are some harmful emissions from nature, at the same time it is clear

**T**he environmental damage to the Acropolis can be calculated exactly, but to calculate damage to human health and forests is more difficult. Methodologically speaking, these are very complicated questions.

that human activity has had a much greater effect than natural activity. In terms of ratios, even in the very lowest case, that of chromium emissions, man-made emissions are twice as high as natural ones. In all other cases the ratio is much wider.

In Laos for example, they are high due to the burning of forests and high emissions of methane from agriculture, particularly rice production. It is these factors which indicate that implementing a climate convention is a very complicated issue.

## Sustainable Development

The Brundtland Report had an important impact by introducing the concept of sustainability:

*"a process of change in which the exploitation of resources, the direction of investments, the orientation of ecological development and institutional change are all in harmony and enhance both current and future potential to meet human needs*



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**A**rthur Schopenhauer once defined a law of happiness as: "To be happy and to remain happy you have two options, first, decrease your expectations, and second, increase your efforts." Regarding sustainable development a third suggestion could be: "Let us decrease our expectations and increase our efforts at the same time."

and aspirations."

Now why should society's expectations be decreased? This has to do with the possible definition of the concept of sustainability. One is a weak one, while the other one is a strong definition.

The weak definition goes like this:

*As long as man-made and human capital increase in the world we need not worry about the decrease in natural capital; as long as there is a balance between what people construct, what they do with regard to infrastructure, intelligence and education, we need not worry what happens to nature.*

The strong definition says:

*We have to keep nature intact, we can rely only on renewable resources and we have to stop the exploitation of non-renewable resources.*

There are at least three strategic elements in a policy towards sustainable development. The first element has to do with the market; what can be expected from the market? The other two have to do with politics; what should be expected from politics?

**1. Free Market:** With regard to the first, the market; there are three different pathways. One is to increase income in order to de-link or de-couple polluting activities such as energy production, cement production, freight, transport and other polluting activities, from the increase in GNP. The second course is that there is no de-linking of polluting activities from GNP at all. In between those two extremes there is a third position, where at least a certain transformation has taken place, and where the polluting activities have been somewhat reduced. It must be added that the market cannot remain as it is because there are some incentives that are still going in the wrong direction; incentives are needed that point in the right direction. That, of course, means introducing politics into the picture.

**2. Environmental Policy:** Characterising the policy established so far, the conclusion is that it is predominantly curative, re-active; it is not yet preventative, pro-active. This has to do not only with the goals but also with the instruments used in environmental policy, and these so far have mainly been state regulations, norms and standards. Not enough use has been made of market instruments, of charges on emissions and taxes on precious resources. This is probably going to be the future of environmental policy, which could then be labelled "preventative policy".

There are three major steps towards the creation of an effective environmental policy:

**Freedom of information.** There is a need not only for better laws, but for improved monitoring, which has to be public. It could well be that the government has to be forced to give the information which it has to the public. If that is not the case, what can be done?

**Good organisation at grass root level.** People must organise themselves where they find a prob-

lem. In the English-speaking world NGOs (Non-Governmental Organisations) have become very important mainly because they are in opposition to the GOs (Governmental Organisations), but there are some cases where cooperation between NGOs and GOs has led to excellent results. It depends upon who has the best information and who can best convince the public, industry, private households, that something must change.

**International legislation.** With regard to the "modern Flying Dutchmen", the ships which cruise around the world with waste to be dumped somewhere abroad and not at home; first of all there is a law, the *Basle Convention*, prohibiting this transport of toxic waste. However, is the administration strong enough to prohibit illegal exports and imports?

An economist's answer to this is that if there are exports of waste and imports of waste resources, it has to do with wrong prices. "Get the prices right", and then there does not need to be as much waste as at present.

**3. Expectations from Environmental Policy:** The third point has to do with a more traditional field, economic policy. Economic policy in most countries of the world is still very much quantity-orientated. Quantitative growth of the economy is still the major aim, where what needs to be looked for is quality of life. Quality instead of quantity, is something which should be considered more in the future. Again, this means using different, and additional, instruments in this traditional field of policy making.

## Technological and Socio-Economic Innovations

It is already possible to introduce technologically new methods to increase energy efficiency by a factor of 2, possibly even 3. Resource consumption can be reduced drastically, and water saved, etc. Unfortunately, the socio-economic questions indicating the need for institutional change, are not so well addressed. Proposals have been made to provide a profit motive for reuse and recycling, and to investigate leasing systems instead of selling systems. If the automobile industry were not allowed to sell cars but could only lease them and had to take them back after use, there would be a revolution in the automobile world.

However, there are alternative ways, such as the revision of tax systems. A current debate in Europe is about introducing a CO<sub>2</sub> emission charge and an energy tax. Other ways of institutional improvement could be named. In the legal sense, liability is one major category. Those who produce and construct things should be liable for the effects those products and technologies have on the environment. Labelling of products is another way through which consumers become better informed. Trading emission certificates is yet another possibility.

One estimate of what is still happening to the environment can be made by calculating the damage to the environment in monetary terms. The environmental agency in Berlin has calculated that more than 200 billion DMs worth of damage to the environment occurs every year.

## Exit from the Dilemma: De-linking GNP from Polluting Activities

Research has been carried out into the following question; how can the industrialised world be analysed, from the point of view of de-linking polluting industries from the growth of GNP?

Results show at least three groups of countries. In the first group the de-linking of polluting indus-

tries from the growth of income has taken place, resulting in some relief for the environment. It has been induced by structural change in the economy. Unfortunately, there is a group, including Greece, where no such de-linking has taken place. In this group the impact has in fact been increasing over time. Thirdly, there is a middle group where there has been a relative de-linking.

## The Role of the Government

A well-formulated environmental policy is necessary. It must be on all levels, not only the national, but also the global one. These two levels have to be supported by what is happening at the local level. A bottom-up approach as well as a top-down approach is necessary.

Whatever the approach, three steps must be differentiated in any effective environmental policy structure. First, the principles have to be clear. For example, the 'polluter pays' principle is well known, and most countries now agree to it. Recently, the question of compensation schemes was put on the agenda. If Brazil saves part of its forests, Europe should compensate it for the services the tropical rain forests provide for the Earth's climate. The basic message is that a precautionary or preventive approach should be established and that there is a need to be serious about institutions. Here, monetary institutions, fiscal and evaluation institutions are all-important,

**W**asting the environment is still very cheap because the environment has no price. That is why the environment must be priced.

not only for policy formulation but also for policy implementation.

With regard to measures and instruments, the discussion has so far been about standards or technical norms. Only recently has discussion started about introducing taxes on certain polluting activities. Discussion has also commenced on the introduction of certificates that could be traded on the market.

Here is a presentation of what is considered necessary for the future. According to a simple theory, environmental problems are related to certain trends. Pollution is accumulating over time. Unfortunately, knowledge of, and technical expertise about, this problem has started only at a later stage than the pollution, and this also has to increase over time. Another unfortunate situation is that public awareness of the problem begins later than the other two stages.

If this theory is relevant, then these conclusions are also important; namely that more has to be done to handle the problem technically, and move on to what was earlier called 'clean-up technology, cleaner technology and clean product'. All this is important, but probably not enough. The issue is to take all the necessary steps to increase the awareness among the population that something needs to be done.

One of the roles of a scientist is to provide some kind of relevant indicators. Addressing global climate change for instance, the need to consider a CO<sub>2</sub> emission plan for the world as a whole must be emphasised. This plan was particularly supported by a commission of the German parliament. Taking CO<sub>2</sub> as a global problem, the commission decided that the industrialised countries needed to decrease their CO<sub>2</sub> emissions, from 1987 to 2050, by 80%. This is a challenge which needs a response, and comes close to what may be called a new industrial revolution.

However, humanity is already on the move. One step forward was the so-called 30% Club, on anti-acid rain strategy. It was included in a convention signed in Helsinki in 1985 on sulphur dioxide and, later on, nitrogen oxide. The convention was signed in 1988 but came into existence only in 1991. Other agreements include CFCs, the Vienna Convention in 1985, with the respective Montreal Protocol in 1987, the Helsinki Declaration and the London Declaration of 1990, and finally the Copenhagen Conference in 1992, which further tightened the Montreal Protocol.

The latest step was taken at the United Nations

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# Environmentally-Literate Citizens: An Educational Goal



PROFESSOR LIDUVINA R. SENORA  
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Professor Senora has been an active  
friend of the Biopolitics Interna-  
tional Organisation for many years.  
The following paper on bio-education  
was submitted to the Sakharov  
Festival, held in Athens in July 1994.

It is a generally accepted perception that people the world over are educated all their lives, from the cradle to the grave. Education as such has to do with the proper upbringing of children, the development of mental and physical powers as well as the formation, moulding and direction of character. In a word, education is development and as such is a concern with meeting the needs of future generations for a better quality of life.

Despite deeply felt concern about the pollution of human health and our world, people continue to abuse the air, water and land that sustain our lives. Accordingly, there seems to be a need to chart and transform these concerns into a new environmental ethic, one that sustains humankind and its global village. Social scientists have implied that lifelong education could make this critical transformation possible. This thesis postulates that 'education is the vital ingredient in the global effort to achieve environmental quality'. One may ask, how does development affect the lives of the least educated class, particularly those at grassroots level, leaving aside the highest level of educated elite with modern ideas, views and lifestyles? How can universal environmental education become an integral part of developmental projects and vice-versa? These are some of the perplex-

ing questions which require to be analysed critically and appraised factually, to support the arguments for identifying acceptable educational values derived from global concerns about the preservation and protection of our bios.

'An environmentally literate and motivated citizenry is the clue to successful bio-environmental protection and conservation.' Children, adolescents and adults are potent constituents whose energies and capabilities must be harnessed, with guidance, to achieve this elusive goal. Governments in Africa, Asia and the Pacific, Latin American and the Arab world have demonstrated their concern through regional programmes of action on bio-environmental education and training. In 1975 UNESCO and the UN Environmental Programme (UNEP) launched an international education environmental project to promote environmental education for all age groups, both within and outside the formal educational system. The conference in Tbilisi, USSR in 1977 developed guidelines and programmes designed to urge educational institutions to promote environmental education as a subject in its own right and as a facet of other subjects.

In 1987 UNESCO and UNEP published the International Strategy in the

Field of Environmental Education and Training for the 1990s. Through the International Environment Education Programme (IEEP), UNEP and UNESCO, approximately 12,000 key educators have received in-service training activities in 150 countries.

The Biopolitics International Organisation has progressed remarkably after its inception in 1985. When, five years later the IUBE was launched many different educational establishments showed their interest in including Bio-environmental concepts in their curricula. One ideal function of the IUBE is to promote reform in education worldwide, so as to shift to a bio-centric curriculum by placing bio-environment themes or topics at

**A**n environmentally literate and motivated citizenry is the clue to successful bio-environmental protection and conservation.'

the core of all areas of specialisation. This is a classic move, to assure generations to come, of our deep concern for a safer existence for all people. Realistically, however, this approach necessitates a greater degree of diplomacy and tact if we are to persuade traditional education leaders of the world society to revise the curriculum content of their educational systems.

Without doubt, the infusion of Bio-environmental education is crucial to global civilisation, if we are to realise this end. Nothing less than lifelong environmental literacy is required for humankind's survival. Bio-environmental education must be designed to educate the populace in all walks of life. This universal partnership with the IUBE could permanently transform the way the world thinks and treats life around it. BIO's significant contribution to this attempt may be

considered as a drop in a huge barrel, but to me its deep significance to the entire macrocosm, is as big as the barrel itself.

This enthusiastic endeavour makes one feel that the success of a leader is the triumph of all concerned.

## Quest for education for environmentally literate global citizens

Factually, the world is perplexed about the kind of education needed for the so-called wealthy elite, living in industrialised cities, who appear to be responsible for felling forests to smelt iron for warships and planes, demolishing farms to make way for cities, developing modern factories and dumping their wastes into the rivers from which animals once drank and in which aquatic species were abundant. Most frightening of all are the excesses of the rich who have pumped up the planet's atmospheric greenhouse with carbon dioxide and other gases to such an extent that oceans are predicted to expand and ice-caps to melt and change the earth's entire climate, if not checked. The wasteful over-consumption of this group remains the most powerful threat to the global environment.

This global problem is indeed one of the accountabilities of the IUBE, through the BIO, which is sensitive, it may seem, to finding ways and means, relevant educational approaches and of mobilising the necessary utilisation of the available expertise, abilities, capabilities, knowledge and understanding, as well as effective values and attitudes, to discover the kind of education necessary to alleviate these problems. Otherwise, environmental degradation will continue to affect the whole world.

## Philippine contribution to Bio-environmental education

Environmental education in the Philippines started to gain ground in

the 1970s when it became a part of the school curriculum in the elementary and secondary schools. At university level there are a number of undergraduate and graduate courses in environmental fields. Key educators have come to realise that decisive measures must be pursued if mounting environmental awareness is to be properly directed towards concrete positive and localised actions.

The legal basis for environmental education in the Philippines is embodied in the Philippine Environmental Code of 1977 that states: The Department of Education, Cultures and Sports shall integrate subjects on environment education in its school curriculum at all levels. It shall also endeavour to conduct special community education, emphasising the relationship of man and nature. In 1989 the Environment Management Bureau convened educational leaders to form a multi-sectoral group of government and NGOs which aimed to provide a national framework that would synchronise unified activities on environmental education at both formal and non-formal levels. This meeting emphasised the integration of concepts of environmentally -sound development at all levels of education. This exercise strengthened links with and support for academic institutions and provided a broad environmental coalition network. It produced information and relevant materials such as source books, and video tapes as well as tri-media production packages for teachers, including samples of evaluation instruments for the learners. Since then continuing seminars, workshops and other in-service fora have been conducted to improve the quality of environment education in the country.

BIO is barely ten years old, yet it has progressed considerably. It seems that the IUBE should maintain a continuous monitoring system to assess its objectives since its origin, in order to learn the extent of its successes and shortcomings in the direction of progressive growth and development. □

## Structural Economic Change: the Bio-Environment

Continued from page 3

Conference on the Environment and Development in Rio de Janeiro in 1992, where the climate and biodiversity conventions were signed. The issue now is how to bring about a protocol on implementing CO<sub>2</sub> reductions. This is planned to take place in Bonn in 1995.

In addition to CO<sub>2</sub> and CFCs, there are other pollutants, such as methane emissions, which contribute to climate change. These emissions have to be addressed as a parallel to the question of how to stabilise tropical forests. One suggestion is to introduce a climate fund for the world as a whole. With regard to financial aid and institutional aspects, an energy tax could be introduced, not only in the European Union countries but also in the United States and Japan.

However, all these are open questions leading to the final challenge: the future agenda on sustainability. In order to put together some of the essentials that are needed, the following should be mentioned:

- improvement of environmental information and education;

- clarity on indicators which are important;
- environmental policy research.

Strategic research regarding certain economic sectors will be needed. What has been well researched so far is the energy sector. What is not so well understood is the chemical sector. A great deal of discussion is taking place on how to restructure the transport system; everybody who has to walk or drive through cities like Athens knows that change is needed. Although this is related to the perception and the structures within which urbanisation takes place, it also has to do with international trade.

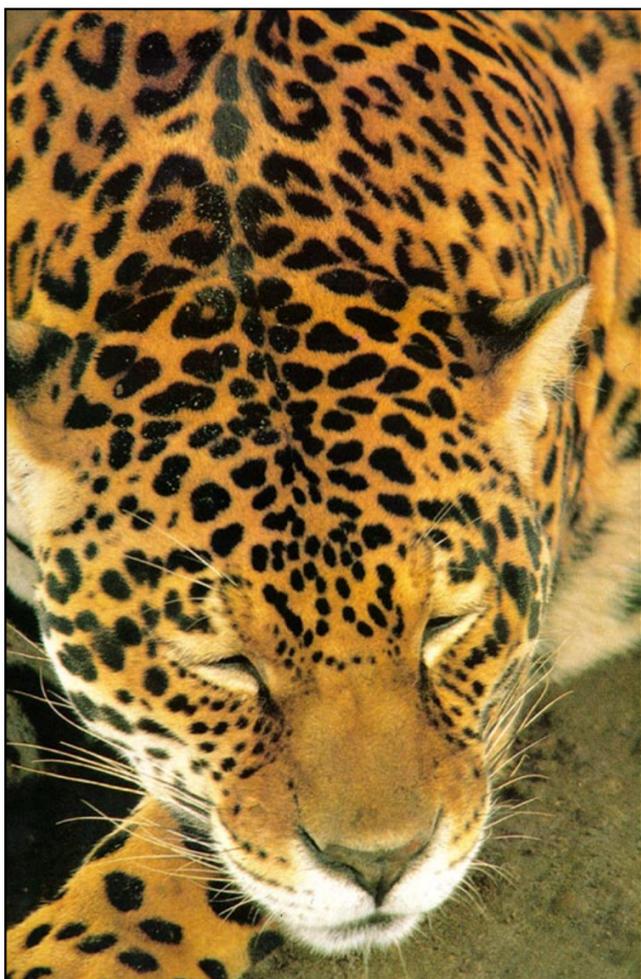
It is not only through norms, but particularly through education and new instruments that these goals may be achieved. Equally important is the awareness by industry and government that behavioural change is necessary. There is still a discrepancy between what is already known and what is really done. Education is basic at all levels, and for these very good reasons, Dr. Vlavianos-Arvanitis is

proposing a major step forward on how to integrate the B.I.O ideas into all levels of education.

The conclusion is that these three elements, structural change of the economy, preventive environmental policy, and ecologically oriented economic policy, are all necessary ingredients in any effort towards sustainable development. The latter in itself is probably not sufficient, so this presentation ends by proposing that a fourth element is possibly needed, defined as sustainable ideas, sustainable principles and sustainable philosophy.

As was suggested earlier, let us make *oikos* strategic on the local, national and also global, level. To quote Dr. Vlavianos-Arvanitis, "let us make bios fundamental, fundamental in our hearts, fundamental in our minds and fundamental in our actions." □

Presented during the first Conference on "Business Strategy for the Bio-Environment" organised by B.I.O. in December 1992



# Education for a Global Responsibility



DR PAULO C. MOURA is a Brazilian psychologist, president of the Institute of Political and Social Studies, member of the World Futures Studies Federation and associate-member of The Club of Rome. Dr Mauro is a distinguished Biopolitics International Organisation supporter. The following paper on bio-education was submitted to the Sakharov Festival, held in Athens in July 1994.

The future does not simply happen. Despite inevitable and unpredictable variables, the future is basically shaped by us; it is rather a consequence, than a continuation, of the present. It depends mostly on the accuracy of our perceptions of the present and, on the decisions and actions we take as responses to those perceptions.

To deal with this fast-changing world of ours, to understand the challenges and dilemmas of our present, and controversial, time, and to help future generations, one major issue is to lead education towards a new global responsibility (education, from Latin "educare = exducere"). This takes much more than striving for the continuing growth of the present material wealth of the world. It involves a full commitment towards the preservation and sustainability of our global heritage. Bio-centric values are much more than just respect for the natural environment. They reach the fundamental principles of human dignity and the theology of creation.

As the authors of the "Global 2000 Revisited" (The Millennium Institute, 1993) say: - "Values we often take for granted have important consequences for the way we treat each other and the way we treat the Earth. A great danger in a materialistic and mechanistic view of the world's problems is that even when we see the problems, we often assume that the solutions are to be found only in the same material realm. Thus, most proposals for cleaning up the environment focus on technical fixes. But the greatest help and the

only lasting solutions to the violence we do to the world and to each other will come from wisdom - from rediscovering ways of seeing ourselves clearly." So education, in its broadest sense, is the most basic and probably the most powerful instrument for shaping humankind's future quality of life.

It is important to note that education intrinsically has a perspective of generations. In one sense we need to restore the classical Greek's PAIDEIA concept and promote bio-values at all levels of every educational system. Governments work on a limited time horizon, usually related and restricted to the "next election" interest, not to the "next generation". Only education and spiritual traditions have a longer horizon and a global perspective.

We have traditionally dedicated our educational efforts to the mere acquisition of some necessary skills, knowledge and abilities. This is good and necessary, but not sufficient. Our

**E**ducation intrinsically has a perspective of generations. In one sense we need to restore the classical Greek's PAIDEIA concept and promote bio-values at all levels of every educational system.

present educational processes are based upon the old paradigms, now undergoing a profound transformation. We have overlooked the fundamental necessity for creating a solid and comprehensive vision, which embraces our responsibility for the global environment. Bio-values must be an indispensable component of all educational programmes at all levels. In order to define or redefine goals and priorities, we must become concerned citizens of the world, we must go beyond national and regional boundaries and develop a new attitude towards a universal society. Therefore, education must be revised and perform a new role.

by altering people's values. But, as we know, values are always influenced by culture, and that is why the new paradigm may have its major impact on education.

Education is a major force for social change. Every generation receives from the previous one the heritage of a common human patrimony. It must conserve and enrich this patrimony up to the point of transmitting it to a new generation. Thus, it is in this "enrichment" process that our generation can add a new attitude, stabilise and transmit it to the next generation. And part of this attitude should be a commitment towards the sustainability of the earth.

**B**io-education cannot be just one more lesson to be learned as part of the bio-sciences. It must become a way of thinking, a most fundamental approach to understanding the complexity of the human condition

Although Earth is one, environmentally-speaking, it is not one socially or culturally. Therefore, it is crucial to reduce these discrepancies and to reconcile these views in order to enrich the fundamental unity of Earth. Bio-education cannot be just one more discipline to be learned as part of the *bio-sciences*. It must become a way of thinking, a most fundamental approach to understanding the complexity of the human condition.

The so-called new paradigm represents a profound transformation not only of our scientific knowledge, but also of the overall conceptual basis we use to deal with present realities. Because of this, some values are changing, and new values are being instated.

As a matter of fact, values are the essential elements which form our attitudes (psychologically, attitude is some sort of preparation for thinking, feeling and behaving in a given way) and attitudes are the implicit basis of our external behaviour. Therefore, if one intends to change people's behaviour, the process must start by changing attitudes and

Since we still live under the old paradigm it is "natural" that we are still attached to some old prejudices and biases. The surviving industrial-state era can be typified by a number of obsolete premises, such as: 1) Progress is synonymous with economic growth and consumption; 2) Mankind is separated from nature, and it is human destiny to conquer and fully explore nature; 3) Natural resources are infinite; 4) Economic efficiency and scientific reductionism are the best approaches to the fulfilment of the goals of humanity. This dominating paradigm has resulted in severe societal problems and in the global crisis of our present time.

But when we foresee a universal society, capable of and willing to distribute its affluence equitably and regulate itself humanely and peacefully, we must support an evolutionary transformation: global in its nature, peaceful, humane and coherent.

This new image of a possible and better future must be primarily based on a new educational approach. This approach must develop a sense of holistic perspective, must create an ecological ethic (emphasising the total community of life-in-nature and the unity of the human race), must support a self-realisation process, must support self-sustainability, must be multi-level and integrative and accommodate cultural diversity. Humanity will thus accept being a *part of* instead of being *separated from*, nature.

However painful, every crisis is beneficial in several ways. Firstly, a crisis situation forces us to be aware of one situation, which is by definition an ill-adapted one (the responses we have developed to face the situations tend to be inappropriate, so equilibrium is lost, and that is the configuration of a crisis - be it personal, social, economic or cultural). Secondly, loss of equilibrium drives us to introspection, by examining what is going on, why, how and so on. And finally, to overcome a crisis situation we are forced to look for new alternative patterns, hopefully more innovative. The final result is always a new behaviour (which takes on a new attitude and probably a new set of values). This means change. So, change is the result and the ultimate benefit of a crisis.

As this century draws to a close, the global crisis will force us to change. Under the present circumstances change is inevitable; it can be peaceful or disruptive, but it is going to happen anyway.

Planned change is always desirable, more productive and helps us to shape a new reality in an ordered way. Society is changing, but we must learn how to make this transition smoothly. For this, education is certainly the most powerful instrument. Bio-education is therefore a way of living, a human choice and a societal responsibility for the preservation and sustainability of our common heritage. □

## Bio-Culture



Elena Papandreou, during her performance at the Sakharov Festival.

The promotion of a global bio-culture for the next millennium was one of the primary goals of the Sakharov Festival. In the search for new models and a new vision for the future, a bio-culture of global participation can add the necessary dimensions of hope and the harmonious co-existence of all forms of life.

This unifying spirit of the Festival demonstrated the interdependence of all branches of human endeavour and encouraged communication and cooperation among all fields and disciplines. Music, arts, sciences, politics and economics all came together in an attempt to promote common values and goals for the new millennium. The bio-environment, human rights and the arts are interrelated concepts in the struggle for a better quality of life.

Music, one of the most important forms of artistic expression, was a significant dimension of the Sakharov Festival.

Among the many distinguished artists, whose talents enriched the Festival, and contributed to its unparalleled success as an international cultural event, was the internationally-acclaimed Greek guitarist, Elena Papandreou.

Ms Papandreou was born in Athens and gave her first recital at the age of fifteen. In 1983 and 1984 she released her first two LP's, and also in 1984 she won 1st Prize in the International "Maria Callas" Competition (which, paradoxically, was awarded to a Greek for the first time). After that she won scholarships and many awards internationally and studied under world-famous artists such as Julian Bream, Alirio Diaz, Leo Brouwer, Oscar Ghiglia and Ruggero Chiesa.

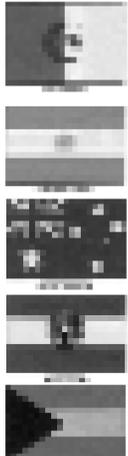
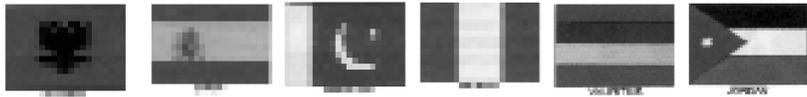
She has subsequently given recitals in Greece, England, Italy, France, Hungary and Turkey and has had the honour of having many works dedicated to her.

She is known as one of the greatest interpreters of the classical guitar, and one newspaper recently wrote of her: 'The critic becomes silent when the Music begins.'

So too became the participants of the Sakharov Festival when Elena Papandreou performed during the conference.

The programme included the following works:  
Heitor Villa-Lobos *Choros No. 1*  
Frederic Chopin *Valse op. 34 No. 2*  
Astor Piazzolla *Portena* □

# Biopolitics - Bio-Environment - Bio-Culture in the International Sakharov Festival - Athens



The International Sakharov Festival, with the theme "Biopolitics - Bio-Environment - Bio-Culture in the Next Millennium", held in honour of the Russian humanitarian Andrei Sakharov, was an attempt to contribute, with a deep sense of responsibility, to the protection of the bio-environment and the search for essential bio-cultural values for the next millennium.

The Festival raised awareness of the need to build a biocentric culture, based on an integrated educational system, and to incorporate environmental dimensions into every aspect of human endeavour. This global, unifying vision of Biopolitics, shared by supporters in 85 countries, aspires to make preservation of the bio-environment the primary societal aim for the 21st century.

### Goals of the Biopolitics International Organisation

All Festival participants pledged their unwavering support to the goals that the Biopolitics International Organisation has been actively promoting since 1985:

- international co-operation for the better understanding and appreciation of bios (life) and the bio-environment;
- the establishment of international educational reforms, in order to facilitate the shift from anthropocentric to biocentric values, through the creation of the International University for the Bio-Environment (I.U.B.E.). Within the I.U.B.E. framework, promotion of a global bio-education, through the use of satellites, has been stressed;
- instating international co-operation for the protection of the bio-environment, leading to a new era of bio-diplomacy;
- promoting international legislation on bios rights;
- contributing bios-related dimensions to business and management concepts world-wide;
- providing incentives for business leaders, political decision-makers and the general public to elaborate a new strategy compatible with the interests, needs and values of the bio-environment;
- organising an international campaign for Environmental Olympics and awarding of Bios Prizes to "individuals who have contributed to the preservation and better understanding of the bio-environment";
- sensitising public opinion to the ramifications of the biological sciences;
- promoting an international bio-assessment of technology, so as to ensure technological and economic progress that supports the bio-environment.

A world-wide bio-assessment of technology can contribute to bridging the gap between technological progress and societal values. Progress could be viewed under the scope of Bios in the Next Millennium and retain the positive aspects of technology that help in the maintenance of the bio-environment. In a dialectic exchange of views, experts in respective fields will be asked to present the thesis and antithesis, and then create a synthesis of new values leading to a harmonious global community. Emphasis will be placed on identifying factors contributing to the decline of values observed in modern society, as well as on a way of harnessing environmental damage, so as to truly benefit from the contribution of technological breakthroughs. Greece is proposed as the ideal meeting place for people in all disciplines to convene and assess progress in their respective fields.

In recognition of the outstanding importance and value of the aforementioned goals, which have been acknowledged world-wide, all Sakharov Festival participants pledged their full support to methods for their implementation, as they have been approved by previous B.I.O. conferences. These methods include:

- expanding the existing bio-syllabus and developing new curriculum materials for all educational levels, as well as audio-visual materials on issues related to bios and the bio-environment;
- introducing a positive feeling in the unemployed, by paying a "Green Salary" instead of benefits, with the commitment to work for the protection of the bio-environment (planting of trees, cleaning of cities etc.);
- encouraging the creation of a clearing-house for both dedicated individuals and established organisations to provide, through the use of computer link-ups, a network of people wishing to co-operate on bios related issues;
- generating environmental action groups, utilising both the enthusiasm of youth and the experience of senior citizens, to tackle local issues;
- encouraging a life-supporting economic strategy to replace destructive policies and a worldwide interdisciplinary exchange of information promoting the appreciation of the bio-environment;
- establishing local Genetic Banks, as a means for protecting bio-diversity;
- promoting the establishment of a computerised Bank of Ideas in which scientists, academicians and philosophers, as well as individuals, may deposit their thoughts and create a rich source of information and reflections on bios;
- establishing an international information system on the bio-environment, through the use of satellites;
- eliciting the co-operation of the media, so that a news bulletin on the bio-environment could become a regular item on news programmes, in the same way that weather and stock-market reports already are;
- organising a World Referendum so as to allow people throughout the world to express their willingness to preserve bios on our planet;
- eliciting the co-operation of the United Nations, and incorporating B.I.O. goals and ideals in their deliberations, as approved in the UNA Ottawa resolutions, in 1987.

### Biopolitics - Bio-Environment - Bio-Culture in the Next Millennium

Andrei Sakharov was not only an exceptional scientist, but also an ardent defender of human rights. The Biopolitics International Organisation organised the International Sakharov Festival to commemorate his legacy and perpetuate the ideals and aspirations exemplified by his life. The unifying spirit of the Festival demonstrated the interdependence of all branches of human endeavour, and encouraged communication and co-operation among all fields and disciplines. Music, arts, sciences, politics and economics, all came together in an attempt to promote common values and goals for the new millennium. The Founder and President of the Biopolitics International Organisation, Dr. Agni Vlavianos-Arvanitis, on behalf of all participants, appreciates the contribution of the world-famous musician and humanitarian, Mstislav Rostropovich, as President of the Sakharov Festival. Special recognition is also given to Elena Bonner, Founder and honorary President of the Sakharov Foundation, who fully acknowledged the efforts of the Biopolitics International Organisation to promote the ideals of the Foundation and ensure the success of the Festival as an international cultural event.

In the search for new models and a new vision for the future, a bio-culture of global participation can add the necessary dimensions of hope and the harmonious co-existence of all forms of life. Full respect for cultural, ethnic and religious diversity is a prerequisite for a successful biocentric society, which will treat such diversity as an invaluable expression of the enrichment of bios. The International Sakharov Festival was a unique meeting of decision-makers from all over the world, who contributed to the quest for new values for the next millennium,

so as to uplift the spirit of humanity. In this quest, an integrated biocentric education, that secures lifelong environmental literacy for every citizen around the world, was recognised as the essential vehicle for successfully promoting a global appreciation of bios. At the same time, the need to regard the bio-environment, human rights and the arts as interrelated concepts in the struggle for a better quality of life, was also emphasised. The resolutions put forward by the Sakharov Festival constitute significant breakthroughs, and make up the necessary framework for building the needed bio-centric society of the next millennium.

### RESOLUTIONS

**At the end of the Sakharov Festival, the Sixth B.I.O. International Conference on Biopolitics - Bio-Environment - Bio-Culture in the Next Millennium, held in Athens from July 28 to 31, 1994, the following resolution was unanimously accepted:**

**In order to curb the destruction of biological species, habitats and ecosystems, and progress toward a biocentric society, it is essential to recognise the cumulative threats to bios, and the urgent need for a global and holistic approach to combating them.**

**Therefore, all participants agree to promote and implement all resolutions and deliberations adopted by previous B.I.O. conferences, and pledge complete support to the following recommendations:**

### RECOMMENDATIONS

Humanity should create a solid ethical foundation for the work of protecting bios, firmly rooted in major communities, and respecting indigenous cultures and their educational systems. Measures also need to be taken toward achieving greater social justice on a global level. It is thus imperative to inform, and most importantly, to influence those involved in decision-making processes, i.e., governmental officials, international and national financial institutions, corporations, universities and research centres, so as to advance toward a society comprising responsible and affected citizens.

#### 1. BIO-EDUCATION FOR ALL

The Goal of Achieving Environmentally Literate Global Citizens

It is crucial to establish a bio-environmental education that will cut through all the barriers and incorporate all academic fields, in participation with every sector of society. Critical thinking at all educational levels should be a top priority, so as to implement the necessary reforms and achieve the desired results. As part of ongoing efforts to sensitise public opinion to the importance of protecting human and bios rights, it is necessary to unite the efforts of scientists, scholars, religious leaders, politicians, diplomats and business people, all over the world.

#### 1.1 International University for the Bio-Environment

It is reaffirmed that the bio-environment should be the first priority on educational curricula, and that educational activities have to be targeted towards all age groups. Within the framework of B.I.O. and the International University for the Bio-Environment (I.U.B.E.), a Committee on Bio-Education and the Strategy of Biopolitics needs to be organised. This Committee will be responsible for:

- implementing programmes on bio-education;
- organising lectures, workshops and seminars, aimed at every educational level;

- defining the basic core of educational curricula, and incorporating interdisciplinary elements into every educational programme. Environmental education will thus become the major link among all disciplines in all nations;
- organising action oriented programmes with the intention of raising public awareness.

In view of the great impact of the Bio-Syllabus and other B.I.O. publications as guidelines for an integrated environmental education world-wide, it is important to expand on the existing material, develop new topics and introduce practical approaches for hands-on training.

It is essential to apply innovative educational plans and educational tools, such as films, books, art projects, or computer games, aimed at every educational level. Hour-long educational programmes on the bio-environment, should be established on television and radio networks. These programmes should be broadcast via satellite throughout the world, so as to ensure environmental education which will reach a global audience quickly and efficiently.

B.I.O. should encourage key educational leaders around the world to undertake thorough reviews of their curricula, with a view to recommending scientific and acceptable measures that would warrant multi-disciplinary and/or interdisciplinary approaches established at the core of all areas of specialisation.

An examination of existing materials, and publications is needed in order to enhance the information-exchange service of the I.U.B.E.. This includes establishing an exclusive library centre, to strengthen the technologies and capacities necessary to promote co-operation, research, information-sharing on environmental preservation.

A World Academic Board of Scientists needs to be established. Within the framework of the I.U.B.E., existing educational institutions are encouraged to create programmes for visiting professors, so that B.I.O. scholars can successfully promote bio-environmental values.

The I.U.B.E. should maintain a continuous monitoring system to assess its objectives, in order to learn the extent of its successes and shortcomings in the direction of progressive growth and development. To promote international co-operation and the better understanding of cultural diversity, the I.U.B.E. should strive to collaborate with various international organisations.

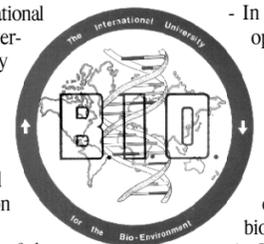
The I.U.B.E. should ensure satisfactory global circulation of socio-economic, cultural and demographic information for bio-educational projects.

It is recommended that the I.U.B.E. develop model training courses on bio-ethics, bio-economy and bio-diplomacy aimed at different groups, such as children, students, and administrators. These courses should be internationally co-ordinated. An International B.I.O. certificate could be awarded for completion of such courses.

B.I.O. could co-operate closely with UNESCO to integrate bio-educational concepts in the IEEP (International Environmental Education Programme) of UNESCO - UNEP.

#### 1.2 Bio-Diplomacy - Bio-Legislation

B.I.O. should be actively involved in the study of the phenomena of war, peace, and conflict resolution. Within the framework of international co-operation for the protection and appreciation of bios, Biopolitics has been promoting the concept of bio-diplomacy. Bio-diplomacy recognises that cultural differentiation constitutes the wealth of the body of humanity. Furthermore humanity is part of the body of bios. This unifying aspect is being promoted as the primary target for the implementation of ways of achieving international co-operation for the respect and maintenance of bio-diversity.



- In the spirit of international co-operation, the Biopolitics International Organisation will enter with the United Nations.
- An international network of non-governmental organisations (NGO's) will be established in order to enforce relevant treaties and bio-environmental legislation.
- An International Board of Bios Diplomats should be established.
- Workshops for bio-diplomats could be organised to negotiate strategies and agreements for the preservation of the bio-environment.
- Special informational and financial needs to be given to developing countries in order to promote clean technologies and reduce the risk of large-scale environmental damage.

### 1.3 International and Domestic Protection of Bios Rights

The concepts of family, peace, culture and religion are promoted as essential societal values for the next millennium. In memory of Andrei Sakharov, most ardent humanitarians of our time, to expound the fundamental human rights in a clean environment. As a result, to stress the importance of including the protection of the bio-environment in the framework of rights.

Limited work has been done on the relationship between bios rights and international humanitarian law. Bios rights could be protected through provisions in the (and related protocols) and especially proposed new Geneva Convention on the environment. Primary goals need to be met with precise and clear obligations on states to reach common and coordinated policies;

- government recognition of the promise sovereignty in order to ensure environmental protection. International treaties could be called upon to influence national governments to implement international treaties for the bio-environment;
- international collaboration in order to ensure critical management and development of issues, such as controlling water pollution, managing international oil transport and endangered species;
- mobilise UN agencies such as UNEP, UNICEF to take more effective steps towards protecting the interests of the bio-environment;
- assist the ICRC and the Red Cross in promoting new legislation to protect people and the bio-environment, especially in times of war;
- address the subject of Evolutionary Ethics.

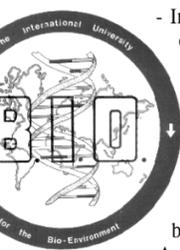
### 1.4 Biocentric Models for the Next Millennium

In this period of transition, societies should adopt new models, in order to avoid negative prototypes, and progress toward a global bio-culture. It is imperative to integrate existing concepts, and work toward a new paradigm for the present anthropocentric society that respects bio-diversity and the preservation and appreciation of bios. The Conference recommended the following:

- list the greatest developmental and environmental failures of the century, draw lessons for the future;
- establish a permanent Committee on Bios Development in the Next Millennium. This Committee would be responsible for defining legislative measures for promoting bios on a global scale;
- formulate co-operative goals, and action-oriented programmes taking into account the potential for development and the preservation of bios;



# Bio-Culture in the Next Millennium Festival - Athens, July 28-31 1994



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- In the spirit of international co-operation, the Biopolitics International Organisation should register with the United Nations.  
- An international network of non-governmental organisations (NGO's) could be established in order to monitor and enforce relevant treaties on the bio-environment.

- An International Board of Bio-Diplomats should be established.  
- Workshops for bio-diplomats could be organised to negotiate strategies and alternatives for the preservation of the bio-environment.  
- Special informational and financial support needs to be given to developing countries in order to promote clean technologies and avoid the risk of large-scale environmental catastrophe.

### 1.3 International and Domestic Law for the Protection of Bios Rights

The concepts of family, peace, education, culture and religion are promoted by B.I.O. as essential societal values for the next millennium. In memory of Andrei Sakharov, one of the most ardent humanitarians of our time, we need to expound the fundamental human right to live in a clean environment. As a result, it is crucial to stress the importance of including the protection of the bio-environment in an overall framework of rights.

Limited work has been done on the relationship between bios rights and international humanitarian law. Bios rights could find essential protective provisions in the Geneva Law (and related protocols) and especially the proposed new Geneva Convention on the bio-environment. Primary goals need to include:

- international agreements on the bio-environment with precise and clear obligations imposed on states to reach common and concerted global policies;
- government recognition of the need to compromise sovereignty in order to maintain environmental protection. International law experts could be called upon to influence governments to implement international treaties relating to the bio-environment;
- international collaboration in order to co-ordinate critical management and conservation issues, such as controlling water pollution, managing international oil transport and protecting endangered species;
- mobilise UN agencies such as WHO, UNEP, UNDP, UNICEF to take more effective action towards protecting the interests of bios;
- assist the ICRC and the Red Cross in formulating new legislation to protect people and the bio-environment, especially in times of conflict;
- address the subject of Evolutionary Ethics.

### 1.4 Biocentric Models for the Next Millennium

In this period of transition, society needs to adopt new models, in order to avoid static and negative prototypes, and progress toward a global bio-culture. It is imperative to redefine existing concepts, and work towards converting the present anthropocentric society into a society that respects bio-diversity and is dedicated to the preservation and appreciation of bios. The Conference recommended that B.I.O. should:

- list the greatest developmental and environmental failures of the century, drawing possible lessons for the future;
- establish a permanent Committee to build up guidelines for bio-development in the next millennium. This Committee would also be responsible for defining legislative means aimed at promoting bios on a global scale;
- formulate co-operative goals, strategies and action-oriented programmes taking into consideration the potential for development of every nation;

- foster the planned goals through regional and international co-operation in the areas of capacity building, expansion of environmentally friendly technology and the exchange of environmental information. Partnerships based on mutual understanding, as well as respect and sharing of responsibilities are highly recommended;

- promote internationally accepted guidelines for biotechnological research and applications, based on bio-ethical principles, the respect for the bio-environment and the interdependence of living organisms. The Helsinki agreement could serve as a starting point;

- elaborate initiatives for enterprises or countries to apply technologies resulting from research in biology;

- establish a small model city, where people would work and live according to bio-principles.

### 1.5 Bio-Business

In Western culture, profit is associated with economic activities resulting in increased income and financial prosperity. However, the concept of profit needs to be redefined, in order to include the principles of quality of life, preservation of natural resources as a measurable part of a nation's wealth, better health and the protection of bio-diversity, which constitute a "genuine" profit for society. Corporate leaders around the world need to realise that environmental protection can become a viable and successful business strategy, and should thus be incorporated into every dimension of their activities.

Environmental administration should be conducted in the spirit of co-existence. In order to overcome greed and over-consumerism, it is essential to move beyond the antagonisms of governments, nations and business, and adopt a common responsibility to preserve the environment for the future. The conference stresses the importance of:

- encouraging greater contribution by international bodies and multinational corporations for the development of environmentally friendly technologies in emerging economies;
- emphasising practical and measurable projects;
- developing a pro-active and progressive environmental policy for business, and encouraging corporations to adhere to the principles of bio-supporting "sustainable development", in the spirit of proposals of organisations such as the International Chamber of Commerce

### 1.6 Environmental Olympics - Bios Prizes

In an effort to raise awareness of the need for faster prevention of environmental destruction, and to lift humanity up from its present crisis of values, B.I.O. has been proposing, since 1992, the enrichment of the Olympics with new biocentric values. Presently, the Olympic Games, a beacon of world peace and hope, award medals only for physical achievements.

In order to advance the bio-assessment of technology and promote bio-culture in the new millennium, B.I.O. has proposed the creation of international committees in every field of human endeavour, assigned with the responsibility for assessing the progress of humanity and awarding Bios Prizes every four years, at the time the Olympic Flame is lit, to individuals who have contributed to the preservation and better understanding of the environment.

Moreover, since 1992, the Biopolitics International Organisation has been proposing the revival of the ancient ideal of cease-fire during the Olympics. The hope is that the bio-environment will act as a unifying force for peace, leading to a new social structure, where respect for bios will be at the core of every human endeavour. Further support to the aforementioned B.I.O. proposals has been offered by the United Nations Association of

Sri Lanka:  
United Nations Association of Sri Lanka

Resolution calling for the suspension of armed conflict both inter-state and civil during the International Olympic Games, once every four years and for a month thereafter.

The United Nations Association of Sri Lanka AWARE of the practice in ancient Greece where all hostilities between city states were suspended during the period the Olympic Games were in progress,

CONCERNED that the community of nations, while paying lip service to the Greek ideals engage in civil and inter-state conflicts with unprecedented loss of life and property, CONSCIOUS that there is an increasing body of world public opinion that sees a glaring contradiction between the ideals of sportsmanship and the dehumanising demands and consequences of all forms of modern warfare, CALLS UPON the International Olympic Committee, as the first step toward a globally operative cease-fire, to accept and implement the proposal made by the Biopolitics International Organisation of Athens, Greece that, commencing from the next Olympiad, all civil and inter-state conflicts be suspended during the period during which the games are in progress and for one month thereafter.

### 1.7 Media and Publications

In the quest for ways to promote bio-environmental education efficiently, media and the press can play a valuable role. Moreover, computer networks and publications on B.I.O. activities can significantly improve the exchange of information on important bios issues. As a result, the following suggestions were put forward:

- starting a peer-reviewed journal called BIOPOLITICA, in order to pioneer concepts in Biopolitics;
- publishing a bulletin twice a year, containing information on all B.I.O. activities world-wide;
- establishing Internet connections and other computer networks, and compiling an inventory of all international organisations and institutions with related goals;
- filming and videotaping productions on Biopolitics and bio-environmental education;
- proposing a specific plan for publicising B.I.O. aims, actions and findings to the scientific community, among policy-making circles, and to the general public.

### 2. GRASSROOTS OPERATIONS For the Promotion of B.I.O. Goals and Ideals

Alternative, innovative, practical solutions for various problems, as well as methods for their implementation, need to be researched. What is required is not another institution, but rather a grassroots operation and a mechanism which will bring Biopolitics to more people and make its goals known throughout the world.

- Bio-Groups responsible for carrying out this operation could be established world-wide. These groups would be active within local communities, and elicit the co-operation of children and senior citizens.
- Bio-Groups would be connected internationally, via a bio-network. A periodic review of progress and updating of projects is anticipated.
- The proposals developed would become part of an International BIO Idea-Bank. A data bank on the bio-environment could be established by various professional organisations and provide qualitative and analytical references for decision-makers.

### 3. GENETIC BANKS AS A MEANS OF PROTECTING BIO-DIVERSITY

Protecting biodiversity at the macro and micro level is essential in order to ensure the continuation of life on our planet. Parks and

protected areas have been used extensively for the protection of flora and fauna species, and the preservation of natural habitats and biotopes. However, this approach only guarantees protection of the macro-environment. The micro-environment, that of the gene and the cell, is still in danger.

Biopolitics proposes the creation of Genetic Banks to secure conservation of the micro-environment.

In order to be effective, these Genetic Banks need to be established locally, and thus help preserve genetic diversity in endemic flora and fauna. Furthermore, the Conference agreed to:

- recognise national parks and protected areas as natural genetic banks, preserving bio-diversity. The natural and cultural value of protected areas as learning environments for the process of bio-environmental education should be strengthened;
- consider transboundary protected areas an effective starting point for the implementation of bio-diplomacy principles;
- support the Planeta Europa project, which is aimed at conservation and the sustainable use of wild plant diversity in Europe.

### 4. RECOMMENDATIONS IN THE AREA OF FAMILY AND CHILDHOOD

- To reveal and explain the causal relationships of many dangerous human illnesses, especially in children, as the result of failure to observe primary ecological rules;
- To co-operate with UNICEF in evaluating the losses suffered by humanity as a result of abuse of the environment;
- To establish a publishing house specifically for environmental literature targeted at children, as well as adults.
- To create attractive logos and to establish symbolic prizes for participation and outstanding results;

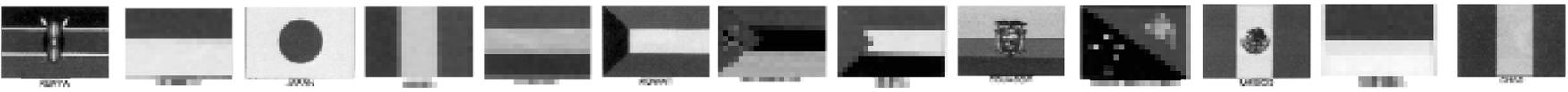
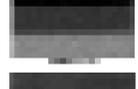
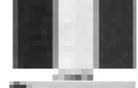
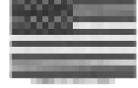
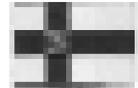
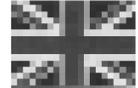
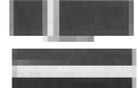
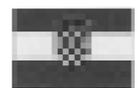
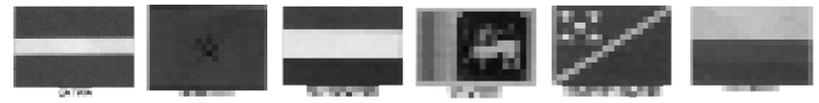
### 5. SPECIFIC PROPOSALS

To help implement the aforementioned resolutions and recommendations, participants of the Sakharov Festival also made several practical suggestions and submitted specific proposals:

- Establish at the CUB (City University of Bratislava) a faculty for bio-diplomacy and the bio-environment.
- Establish the Earth Science Museum of Moscow State University as a centre for bio-environmental education.
- Establish in Krakow a "Biopolis-International Centre of Research, Training and Education" based on interdisciplinary case studies, land-problem solving, training, open universities, distance education and partnerships among experts, decision-makers, local societies, different professional groups, and NGOs. This centre must be sponsored by the I.U.B.E.;
- Schedule specialised panel lectures for the general public during future conferences;

### 5.1 Suggestions for the Promotion of B.I.O.

- B.I.O. should create a Membership Organisation to be called the "Club of Athens" to organise and co-ordinate efforts to exchange environmental information and promote an international culture, based on co-operation of countries and nations in the third millennium.
- An international exhibition should be devoted to the activities of B.I.O. and promote biological and environmental education.
- Establish a permanent B.I.O. forum;
- Register B.I.O. associations world-wide in accordance with local law. Registration would enable them to get support from local authorities and reach more sponsors and potential members.
- Preparation of short, multi-lingual booklets, focusing on B.I.O. activities and specifically aimed at those involved in global decision-making.



# Learning to be a Compassionate Consumer

BY ELIZABETH Koubena  
A free-lance journalist active  
in bio-environmental issues

It's not easy to be a compassionate consumer. You have to shop carefully to buy products which are cruelty-free.

Look at your shampoos and conditioners, for instance — is "hydrolysed animal protein", "placenta" or "elastin" included in the list of ingredients?

Toiletries use popular fixatives like civet, castoreum and musk taken from the genital glands of civet cats, beavers, muskrats and deer. Most of the animals are killed for the essence; Ethiopian cats are kept in tiny cages and whipped in the face to promote glandular excretions.

Turtles, seals, swans and mink are slaughtered for their oils to be used as ingredients in skin creams and scents. And do you know what makes that frosted look in lipsticks and blushers? Ground fish scales.

Testing of many products, from bleach to cosmetics, is routinely done by scientists (or so they call themselves), most of whom still use unanesthetised animals; the animals are force-fed or injected with enough of the product to kill 50 percent of them within 14 days. I won't describe any of the actual tests; they will make you sick. But you must know that each year, tens of millions of animals are burned, shocked, poisoned and killed in experiments which are unnecessary.

As far as medicines are concerned, try to buy generic drugs or better still use old-fashioned remedies whenever possible. Avoid the



**Cruelty-free cosmetics. Bravo to L'Oreal, Revlon and Avon; three of the big cosmetic companies have stopped using animals for product testing.**

'new and improved' products (which means 'new' testing). If you are on hormone replacement therapy, avoid the pill Premarin and take a plant-derived synthetic hormone instead. Premarin is estrogen, extracted from the urine of pregnant mares, who stand on concrete floors in small stalls for most of their 11 month pregnancy, unable to take more than a step in any direction in order that a catheter

is fitted with a rubber collection cap can collect their urine.

In cleaning products, use simpler cleaning materials like baking soda, vinegar or the new environmentally-friendly products made from natural ingredients not tested on animals.

Buy organically grown food. And if you eat chicken, buy free-range (not only do the chickens lead a more natural life, they have less antibiotics injected into them).

Avoid artificial additives in food; sugar, salt and vinegar are natural



**The compassionate consumer shops for natural fibres, neither bleached nor dyed.**

preservatives not tested on animals.

If you buy canned tuna, look for the "Dolphin-friendly" sign on the product (the tuna industry in the Eastern Pacific uses nets for tuna which entrap and kill thousands of dolphins).

Avoid natural bristle brushes, which are made from animal hair taken from a slaughter house or pulled from live animals held down with a foot on the neck.

When it comes to clothes, the trend is away from man-made fibres towards natural fibres, like cotton, linen and wool. While the manufacture of cotton is more energy-efficient than any man-made fibre, it's also true that a synthetic garment may last a lot longer; it can also be dyed and washed at lower temperatures. Cotton also takes up about five percent of the world's productive land and intensive production of this crop simply exhausts the soil.

In Egypt, for instance, intensive cotton crops have ruined a third of the farmland; it has become too salty to support plant life. In Brazil the rain forest is being cut down to grow more cotton and in Russia, the Aral Sea is in danger of drying up as a result of too much cotton producing.

You should also be aware that cotton-growing often involved large-scale pesticide and fertiliser use, both of which are animal-tested, and which cause health hazards for local people. In the Sudan, for instance, run-off from irrigated cotton fields has contaminated drinking water with the pesticide methyl parathion. Other pesticides like aldicarb, aldrin and carbofuran, also used on cotton, are known to cause health problems ranging from nerve damage to cancer.

Cotton is made crease-resistant and flame-proof with a finishing agent which is formaldehyde-based, a known carcinogen. Chemicals for bleaching, dyeing and processing cotton are also likely to have been tested on animals.

Wool, on the other hand, another popular natural fibre, does not rely on the heavy use of fertilisers and other agrichemicals for its existence.

It can also be spun after a relatively short production process so is relatively energy efficient. Not that there aren't some problems here too, of course. In some coun-

tries, substances used for sheep dipping include toxic pesticides such as lindane; there is no legal requirement to test wool for pesticide residues either.

Africa, Uruguay and New Zealand, you will be supporting an industry that used only biodegradable chemicals for sheep treatment. In fact IWS spends 24 percent of its technical budget on environmental technologies.

Synthetic fibres are another kettle of fish. Polyester and acrylic depends on oil for production, more than 23,000 barrels per day. Viscose and rayon rely on renewable eucalyptus wood for raw material but this tree is an environmental disaster outside its native Australia; it causes severe soil degradation by extracting more nutrients than it gives back to the soil.

Dyestuffs are also hazardous; most come from fossil fuels and toxic chemicals used in the dyeing process, especially red and dark blue, cause problems for waterways that they are discharged into; they stop light from reaching river plants and disrupt the food chain.

Sadly, most fashion designers have been slow to respond to the green movement. Just take a look at the number of designers still using fur and leather in their collections, for instance.

There are some things a conscious consumer can do to try to dress 'green'. Look for cotton which uses neither chlorine bleach nor formaldehyde. There are many stores which carry such cotton goods.

So look for organic cotton, unbleached material and avoid



**Opt for organically-grown produce**

flame-proof crease-resistant and easy-type cottons which have a formaldehyde-based finishing agent.

So whenever you go shopping, read labels and demand cruelty-free products. Money is a powerful incentive for companies to supply us with the products we want. □

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**TRAPPED?** Animals suffer excruciating pain in steel-jaw leghold traps for hours or even days before having their chests stomped on or necks broken by the trapper.

**RANCHED?** Animals on "ranches" spend their lives in tiny, filthy cages and are killed by electrocution, suffocation, or neck-breaking.

Fur hurts the environment too; harsh chemicals are used to preserve and process skins.

Don't let the cold penetrate your heart. Stop the suffering. Refuse to wear fur.

**PETA** PEOPLE FOR THE ETHICAL TREATMENT OF ANIMALS  
PO Box 40756, Washington, DC 20015 301 779-PETA

**THERE'S NO EXCUSE—FUR HURTS**

## Helping to Preserve Bio-Diversity: Some simple guidelines for consumers

### AT HOME

Recycle reusable materials and make compost out of organic ones. Save water, gas, electricity and heating oil. This can limit water, air and soil pollution and, as a result, help with preserving biodiversity. You can also contribute by making wise purchases:

- avoid overly-packaged products;
- choose products made from recycled materials (glass, paper, etc.);
- do not purchase environmentally hostile products, such as ivory or furs;
- opt for organically-grown pro-

duce, even though it might be of inferior quality;

- when on vacation, avoid collecting any souvenirs that might endanger the local flora and fauna: stuffed animals, feathers, corals and shells, snake-skins, butterflies, cacti, orchids.

### IN THE GARDEN

If you have a nice big garden, you could turn it into a real treasury of biodiversity. Just follow these simple steps:

- avoid fragile plants that require large quantities of pesticides;
- avoid mowing the grass in "low-traffic" areas; try hoeing once or twice a year instead;

- replace chemical fertilisers with compost from cut grass and fallen leaves; it's much better for your garden;
- plant endemic vegetation, which is best suited to the local weather and soil conditions; you will have no need for any chemical fertilisers;
- leave some pieces of dead wood around, so that little animals can find a safe hiding place - especially in the winter.

### IN THE CITY

Wildlife and "city life" can co-exist. To help out, we need to:

- encourage the preservation of

urban parks and fields, and the planting of endemic trees and vegetation;

- limit our use of asphalt and cement, and avoid unnecessary paving;
- preserve roost and hibernation sites of local fauna, such as bats, swallows or owls, and avoid blocking access to their nests during building restorations.

### IN THE COUNTRY

Preserving bio-diversity in the country:

- discourage the destruction of

fallow fields or marshlands, which serve as rich biotopes for many species of plants and animals;

- restore fallen stone ledges between cultivated fields; they can provide protection from the wind, and can also serve as a shelter for the local fauna, some of which can be very beneficial as "biological pest-control";
- avoid chemical fertilisers and pesticides; try new methods of "biological agriculture" instead;
- restore some of the natural gullies along river beds. □

LE JARDIN DE MONSIEUR NOE  
- LA BIODIVERSITE EN PERIL -  
COMMISSION NATIONALE SUISSE  
POUR L'UNESCO

## European Environmental Policy, Legislative and Economic Framework, Part II

The following article is the second part of a paper presented by Scott Blackmer of Wilmer, Cutler & Pickering at the B.I.O. Business Strategy Conference in 1993. Part three will be published in the following issue of Bio News

Integration of a regulatory scheme in integrated pollution-control permits has already been discussed. Most of Europe is probably about three to five years away from seeing this in practice. Such a trend seems to represent the future.

On the other side, civil liability issues are increasing. The Council of Europe Convention on Liability for Environmental Harm was launched this year. It has not yet been adopted by the entire European Union, and is still controversial within it. It is one of the subjects in a green paper on environmental liability. But even before the European Union adopts it, Greece, Italy and several other countries have

### STRICTER REGULATIONS AND LIABILITY

- \* EMISSIONS AND PERMITS
- \* HAZARDOUS SUBSTANCES
- \* DISASTER PREVENTION AND RESPONSE
- \* WASTE MANAGEMENT
- \* CLEAN UP
- \* CIVIL LIABILITY
- \* CIVIL LIABILITY FOR WASTE
- \* GREEN PAPER ON CIVIL LIABILITY FOR ENVIRONMENTAL DAMAGE
- \* COURT ACCESS FOR INDIVIDUALS

already signed the Council of Europe Convention. However, its impact will not be felt for several months or years yet. For example, it will mean that a municipality could build a port and, if necessary, go to court in order to require a manufacturer or operator to pay for cleaning up the environmental harm that it caused. This would be on a prospective basis. Companies do not have to pay for all the past damage they have caused, but any company operating at an old industrial site should be very careful to get an eco-audit as soon as possible, to establish how much of the damage was there before, otherwise the company con-

“Increasingly, there is a commitment to using public funds and technical help to provide assistance in making this transition. It means changing the nature of operations, building the European Union Legislation and Enforcement infrastructure and making the necessary planned improvements in order to take into account environmental concerns

cerned might be called on to pay for it.

Such a situation developed in the United States. Litigation occurred over these large superfund sites where hundreds of companies and municipalities had contributed industrial and municipal waste. Then the Federal Government decided that such damage must be paid for by any company identified as using the site. For example 3M was one of the big companies involved at a site where they had been dumping for generations. Most of the companies could not be found, but unfortu-

### GROWING IMPACT ON INVESTMENT AND FINANCING

- \* ENVIRONMENTAL AUDITS INDEMNIFICATION AND WARRANTIES
- \* POLICIES OF EIB, EBRD, WORLD BANK, OTHER LENDERS
- \* STRUCTURAL FUNDS AND COHESION FUNDS

### GREEN PUBLICITY

- \* ECO-AUDIT AND PUBLIC ACCESS TO DATA
- \* ECO-LABEL

nately for 3M, three of the barrels at the site had their name painted on them. That one site cost 3M twelve million dollars to clean up, which it did very promptly, on its own.

On larger sites hundreds of millions of dollars can be required to clean up past problems. This is perhaps not as huge an issue in Greece where some of the environmental considerations are already coming into effect, before the most polluting industries have become well established. But here it will also become an issue. The Greek government has signed the Convention on Civil Liability, so this is already something to consider, in the business context. The question of insurance coverage must also be raised. The access of individuals and environmental organisations to the courts is important if they are to enforce some of the laws that may not have been rigidly enforced by the government itself in the past.

Historically, the destiny that was predicted here was inevitable. Fortunately, today something can be done about it, rather than simply waiting for destiny's results to become painfully clear. The importance of having a partnership with government has been discussed in this meeting. There is already a movement away from the context of governments reluctantly imposing regulatory costs on business, and towards governments working together with business. This is in order to understand the nature of the environmental impacts they create, and to develop practical solutions to them, which may mean many more trips to the appropriate ministry, to the local government, and sometimes to Brussels. But it is to ensure that the problems and applications in a particular industry are taken into consideration, so that a practical approach to them can be developed. The list below shows some of the measures currently coming out of the European Union.

- EEC Treaty of Rome (1957): EC acts to prevent market distortions
- Single European Act (1987): "high level of protection" for environment
- Maastricht Treaty (effective 1 Nov. 1993) requires environmental consideration in all EC legislation
- European Commission, DG XI, drafts legislation and monitors implementation
- European Environmental Agency: Studies, data, etc.
- Harmonisation procedures
- European Parliament role (increasingly

### EIA, IPC, AND COMMON STANDARDS

- \* ENVIRONMENTAL IMPACT ASSESSMENTS
- \* INTEGRATED POLLUTION CONTROL (SINGLE PERMITS)
- \* HAZARDOUS SUBSTANCES AND WASTE CLASSIFICATIONS
- \* ENVIRONMENTAL QUALITY STANDARDS

### FISCAL MEASURES AND FINANCIAL INSTRUMENTS

- \* LIFE AND SIMILAR PROGRAMS
- ECO TAX

"green")

- Qualified majority vote in Council
- Environmental measures
- Unanimous Council; vote for broad policy and fiscal measures
- Maastricht Treaty increases EP role, allows qualified majority vote for many measures
- Member states transpose, enforce EU legislation
- Harmonisation and "subsidiarity" tension
- Localisation of some issues
- Member states may enact stricter rules
- Extension of EU law to other European countries
- United States experience as a reference point

This movement is now beginning to be realised in Brussels. Increasingly, there is a commitment to using public funds and technical help to provide assistance in making this transition. It means changing the nature of operations, building the European Union Legislation and Enforcement infrastructure and making the necessary planned improvements in order to take into account environmental concerns. Some examples: for several years now various structural funds have existed within the former European Community, now the Union. During the period from 1989 to 1993, Greece received a total of 7.8 billion ECU. An ECU at the present moment is worth approximately a dollar and fifteen cents in United States currency, so 7.8 billion ECU is over 8 billion dollars invested in Greece between 1989 and 1993. These were funds which were directed from Brussels in cooperation with the Greek government, for

## NEW: European Environmental Policy, Legislative and Economic Framework: Council Directives

### CIVIL LIABILITY FOR DAMAGE CAUSED BY WASTE

Commission issued proposal for Council Directive on civil liability for damage caused by waste on 2 August 1989. Amended proposal issued by Commission on 28 June 1991.

[Commission addressed communication to Council concerning its strategy for controlling CO<sub>2</sub> emissions, including suggestions for technological development, speed limits on motor vehicles and a tax on CO<sub>2</sub> emissions or carbon fuel consumption. Working paper approved by Commission on 17 December 1990. Commission issued proposal for Directive introducing a tax on carbon dioxide emissions and ener-

gy consumption on 13 May 1992. (COM (92) 226, OJ C 196/92)

**Economic and Social Committee**-Committee adoption opinion on 25 February 1993  
**Parliament**: Committee on Economic & Monetary Affairs and Industrial Policy asked to give opinion. Committee adopted opinion on 7 May 1993 Committee on Energy, Research and Technology

### HAZARDOUS WASTE:

Environment Council adopted Directive regulating disposal, transport and abandonment of hazardous wastes on 12 December 1991 (D 91/689/EEC, O.J. No. L 337/91). Adopted opinion on proposal for directive amending D 91/689 on 24 November 1993

asked to give opinion. Committee adopted opinion on 1-3 June 1993.

**Council**: Environment/Energy Council debated community strategy for the limitation of carbon dioxide and for the improvement of energy efficiency on 13 December 1991.

### INCINERATION OF HAZARDOUS WASTE

Council adopted common position on proposed Directive on 11 July 1994. (O.J. No. C 232/94)

Energy Council debated proposal on 21 May 1992 and 30 November 1992. Finance Council held debate on 15 March 1993. Environment Council held debate on 22-23 March 1993. Environment/Energy Council held debate on 22-23 March 1993.

### PACKAGING WASTE

Commission adopted proposal for directive on packaging and packaging waste on 15 July 1992. Commission issued on 25 May 1994 opinion on parliamentary amendments and presented modified proposal, in accordance with Article 189A(2)

Environment/Energy council held debate on 23 April 1993. Energy Council debated proposal on 23 June 1993.

### MONITORING CO<sub>2</sub> EMISSIONS

Fisheries Council formally adopted Decision on 25-26 June 1993. (Decision 93/389/EEC, O.J. L 167/93.) Commission issued report, evaluating existing nation-

al programs under monitoring mechanism. (COM (94) 67, 10 Mar 1994)

[**Commission**: Commission issued proposal for Decision for a monitoring mechanism of Community CO<sub>2</sub> and other greenhouse gas emissions. (COM(92) 181, O.J. C 179/92) Legal Basis Art. 130s. Commission issued amended proposal on 22 March 1993. (COM (93) 125.) **Economic and Social Committee**: Committee adopted opinion on 28 January 1993. **Parliament**: Proposal referred to Committee on Environment,

### SUPERVISION AND CONTROL OF SHIPMENTS OF WASTE

Council adopted Regulation on the supervision and control of shipments of waste within, into and out of the Community on 1 February 1993.

# Co-operation for Survival

## Striking a Balance Between Economic Progress and Environmental Protection

Ecological equilibrium and balance have been seriously disturbed in different parts of the world as a result of human activity and misuse of natural resources. This has brought about a situation which now endangers human life and threatens the survival of the human species.

The average concentration of the ozone layer has decreased by 1% in summer and 4% in winter, over the last 20 years, in an area extending from the Arctic Circle to the Sahara. This is expected to let through enough UV-B radiation to blind 100,000 people from cataracts and to increase cases of skin cancer by 3% every year. The leakage is also expected to stunt plant growth and kill plankton. CFCs, discovered by mankind and labelled "the miraculous gas," are the major culprit.

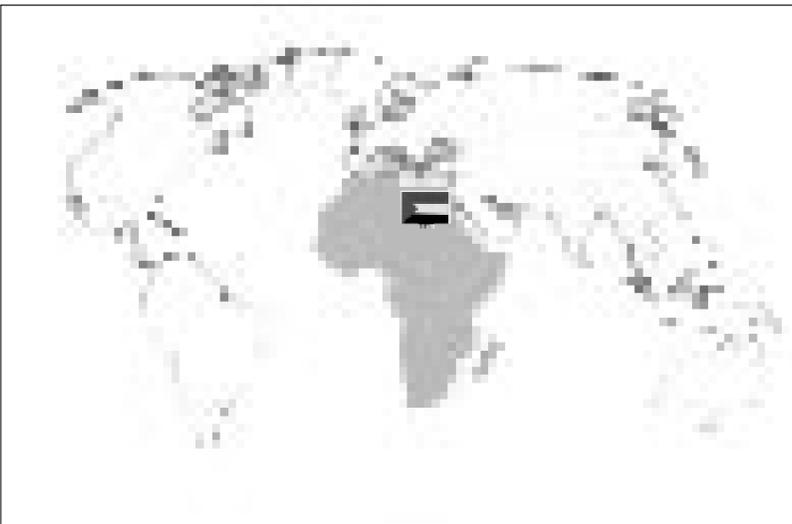
The burning of fossil fuels and felling and burning of trees is increasing the concentration of CO<sub>2</sub> and other "greenhouse" gases to a degree which will warm the world significantly, within a mere 50 years. As a consequence the sea level is expected to rise by 20 cm by the year 2030 and by 65 cm, by 2100. Storms will then become frequent and change locations, affecting coastal and delta nations; four-fifths of Bangladesh was flooded in 1988. Incidentally the Sudan, which suffered severe drought in the mid 1980's, was devastated by floods in 1988. World-wide, hundreds of millions of people are likely to lose their homes and livelihood.

The dumping of hazardous wastes, poisoning the limited supplies of drinkable water, and acid rain, are a nightmare to people in most parts of the world. It is estimated that every day 25,000 people die as a result of bad water-management, and two thirds of the world population is without water. As a result 4,600,000 children under five die from diarrhoea every year.

Soil and land degradation, as a result of climatic changes and human intervention, increases desertification, leading to the desertion of areas, and additional human suffering. It is estimated that over one tenth of the world's population has been affected in one way or another by desertification. Forests are disappearing all over the world at an unprecedented rate; 20 million hectares fall every year. As forest cover shrinks,



**DR FAYSAL TAG EL-DIN ABU SHAMA** is Director of the National Centre for Research in Khartoum, Sudan. Before this, he had been professor of departments of Zoology in both Khartoum and Kuwait Universities. He obtained his PhD in Zoology from London University, England. Since 1982 he has been a member of the Sudanese Society for Wildlife Conservation. From 1991 a member of the Sudanese Society for Environmental Conservation. He is also on the editorial board of several Sudanese scientific journals. He has attended numerous international conferences.



delicate climatic balances are disrupted, leading to global warming, soil degradation and further desertification.

Biological diversity is threatened more than at any other time in history; about a hundred species of plants and animals are lost every day which were not known to us. This reduces the potential for new and useful products. From among 265,000 identified species of plants, 5,000 only have been cultivated for food. Loss of organisms at this rate causes ecological distur-

bance and reduction in the potential of the natural genetic bank, with disastrous consequences with regard to agricultural produce and the improvement of existing crops. This results in loss of potential for sustainable development.

The realisation of these environmental threats and imminent local and global disasters has created national, regional and international concern, and prompted worldwide discussion. Multi-national dialogue in the form of workshops, conferences, scientific meetings etc., has characterised this "Environmental Era". Decisions have been taken at all levels, agencies created and funds allocated for action. The topic of the fate of the Earth moved to the top of the world political agenda, with UNCED of Rio de Janeiro, being a climax of excitement and hope.

Nevertheless, solutions for environmental hazards which are not limited by boundaries or ideologies still lie in regional and international co-operation. A serious world stand, new themes for dialogue and practical mechanisms for partnership have to be adopted. This is an endeavour to achieve a favourable atmosphere for the extension of know-how, finance and technology from those "who have" to those "who have not", with the purpose of strengthening the technical and economic capacity of the developing countries, working towards the enhancement of productivity and environmental conservation.

Politics, socioeconomic development and the environment, are becoming inseparable and to a large extent complementary. Any disturbance of one side of this "tripod" must have universal negative consequences affecting the whole operation. Concepts such as democracy, human rights, free market economy and new world order, constitute areas of judgement of position and behaviour in systems and countries. The yardstick is Western experience and authority. Opportunities for economic assistance are now related to the degree to which they satisfy this Western formula. Deviations driven by local cultures and history have not been acceptable. Many deserving countries have now been deprived of assistance, because of independent political or economic stands. The impact on the environment of such discriminative attitudes is tragic. Reclamation and conservation are continuous processes and interruption in such a way may be detrimental. Taking the Sudan as an example, assistance from many sources was stopped in 1986 and as a result many projects for combating desertification were gradually terminated, leaving degradation and desertification to take their toll on cultivable land and viable pastures.

The environmental issues facing Sudan are complex and interrelated, caused by climatic changes and mismanagement of natural resources. Desertification, deforestation, wildlife depletion and water-related diseases are the principal environmental hazards.

Mindful of the need for a balance between resource utilisation and conservation, Sudan has already adopted a long-term strategy and a package of measures and action plans aimed at sustained economic growth. The philosophy underlying this strategy is basically derived from Islamic belief and teachings, believing that life on this earth has a formidable and noble meaning and purpose. God, as the creator of nature and all living organisms including man, has made man vice-regent over Earth. Man has been trusted to take care of nature and the environment after being given the intelligence and guidance to undertake this mission. However, this does not entitle him to destroy nature, misuse natural resources or upset the ecological balance. Man stands accountable for his good and bad deeds.

Already some steps forward have been achieved. One is forestry reserves, which involved 1.7 million hectares, equivalent to 0.4% of the total area of the country.

As a result of decrees passed in 1993, the area of forest reserves is now reaching 5 million hectares equivalent to 2.2% of the total country area. The National Comprehensive Strategy (1992-2002) endorsed by the Sudan Government calls for the allocation of 63 million hectares for reservation, about 25% of the country's total area.

There is significant progress in areas such as energy conservation, social planning, environmental education and public awareness. The Sudan has crossed the threshold towards environmental protection, in spite of the economic difficulties. □

## Bio-Diversity in Greece

### Continued from page 2

Mount Olympus, Mount Parnassos, the Samaria Gorge, the Pindos mountain range and the Prespa lakes on the north-western borders.

2. **Wetlands:** Greece was one of the first countries to sign, in 1971, the RAMSAR international convention for the preservation of wetlands and aquatic birds. 11 wetlands are included on the list.

The EU places particular emphasis on the obligation of state-members to protect migratory birds. Failure to fulfil this obligation could lead to prosecution. In spite of this, protection of migratory birds against hazards brought about by industrial and agricultural activities is still incomplete.

According to some estimates, wetlands cover, at present, approximately 915 sq. kilometres while in the 19th century, they covered 2,750 sq. kilometres. The 1930s was a crucial period, as many wetlands were drained for agricultural purposes. This led, not only to a reduction of bio-diversity, but also to large-scale environmental hazards.

3. **Forests:** they cover an area of 400 sq. kilometres and are characterised as sites of "outstanding natural beauty".

4. **Natural monuments:** this very special category covers approximately 15 sq. kilometres, protected for their unique international value. These include the 850 hectares of virgin forest in Rodopi (N. Greece), the refuges of the Mediterranean seal on Samos, the Ger-

akas coastline in Zakynthos and the 7,200 hectares of wildfowl reserve in Evros.

5. **Game reserves:** there is a total of 6,800 sq. kilometres of game reserves in Greece.

### Perspectives for the Future

How effective can the suggested policy be in order to ensure long-term preservation of the bio-environment while pursuing economic development further?

A restraining factor is the lack of information as to how the legal framework should be implemented, and the fact that state environmental agencies have a very inflexible administrative structure. Progress needs to be drastically accelerated before non-reversible damage is done to the bio-environment.

Careful planning would aim at reconciling the needs of the bio-environment with the pressures for economic development. For example, bio-tourism has been mentioned by the Biopolitics International Organisation as a proper perspective. (See lead story). The wealth of bio-diversity could serve as an incentive for tourist activity under controllable conditions that would not disturb the bio-environment.

Following the ideals put forward by Biopolitics, it is essential to adopt a positive attitude of respect for bios, that will lead to environmentally-responsible citizens. Therefore, the new era of protection of bios would commence with a new era of bio-education. □

## To Zero Emissions

### Continued from page 2

and policy makers as well as scientists and NGOs, who have become the antennae of society and who express the feelings of the grassroots in a similar way to that of the artists who showed what was to come in society.

The programme will be initiated in Japan, a country which has the responsibility not only to contribute to the research, to an enhanced respect for nature and its hidden technologies, but also, by translating this into concrete industrial strategies, to be implemented by its forceful industries.

I am convinced that we will succeed, because it is the dream of many finally to succeed in

contributing to the construction of a sustainable and humane society. The way to do this though will often be difficult and full of obstacles, and of course I expect to be discredited and attacked, but it will not deter me from moving on.

People like Andrei Sakharov and Elie Wiesel inspire me. To conclude with a few words of the great French philosopher René Char: "Celui qui vient au monde pour ne rien troubler, ne mérite ni regards ni patience".

I do not deserve any appreciation; patience is the greatest comfort to help me fight for a dream. □

## BIOPOLITICS TO COOPERATE WITH UNESCO

... In its programme for 1994-1995, UNESCO proposes to implement an interdisciplinary and inter-agency co-operation project entitled: "Environment and population education and information for human development." In view of the goals of the Biopolitics International Organisation, UNESCO is prepared to study the possibility of future co-operation within the framework of that project, once it is underway...

**Frederico Mayor,  
UNESCO,  
PARIS, France**

## FUTURE DIRECTIONS FOR BIO?

... It seemingly appears that we Asians are struggling hard not to become mere observers or bystanders but both active and vigilant actors in the environment scene to contribute some meaningful measures to safeguarding the preservation of our precious bio-surroundings.

In this connection, may I inquire what are the next plans in this laudable endeavour, after involving the global community for the past ten years? Don't you agree that perhaps it is high time to evaluate the BIO professionally with open-minded perspective concerning its contribution to humanity as a whole since its inception? What percentage of the world body has been involved and benefited in terms of fulfilling the objectives of the BIO? What percentage of academia has utilised the valuable information

## LETTERS

published by the organisation? What criteria have been formulated to avail a particular institution to take advantage of the IUBE library? How far have co-operation and co-ordination been employed in the continents to affect sound diplomacy?...

**Dr Liduvina R. Senora,  
Executive Secretary  
United Nations Association  
MANILA, Philippines.**

## BEST WISHES FOR BIOPOLITICS

... I am very anxious to hear from you about the activities that Biopolitics has undertaken in the last few months. I certainly hope that you have been able to continue the successful promotion of this important and worthwhile cause, stimulating awareness and fighting for attitude changes to create a generally held respect for, and belief in, the value of life on this planet...

**Wiebe Ruiter,  
Graduate Student at  
Erasmus University,  
Rotterdam, Netherlands**

SAKHAROV COLLEGE  
INVITATION

... I offer my congratulations for the Sakharov Festival which was organised to perfection, it must have been really hard work to bring together so many distinguished people with so many different interests.

I am particularly grateful for your personal interest in the Sakharov College and your proposals. I would like to inform you that we have addressed the members of our Advisory Committee on May 1994.

I would very much appreciate it if you and your Biopolitical friends could join our Advisory Committee and contribute to the world experience in education and culture. It would be a great pleasure for me to have you and your friends as my guests to lecture at the college ...

**Alexander Lutsko,  
Rector of International  
Sakharov College on  
Radioecology, Belarus**

## TECHNOLOGY AND THE HUMAN ENVIRONMENT

...The participants of the Open University "Technology and Human Environment" AGH in Krakow would like to express our great interest in your idea of BIOS and hope of developing co-operation with the International University for the Bio-Environment (IUBE) with headquarters in Athens ...

Signatories: Open  
University  
participants, Krakow, 1993

Letters to the editor  
should be addressed to:

**Bio News,  
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Athens 115 21  
or send by fax:  
(301) 6434093**

## B.I.O. Publications

## BIOPOLITICS - DIMENSIONS OF BIOLOGY

Dr. Agni Vlavianos-Arvanitis, 1985.

## BIOPOLITICS - METHODS OF IMPLEMENTATION

Dr. Agni Vlavianos-Arvanitis, 1985.

## BIONEWS Periodical Vol. I, No. 1, 1987.

## BIOPOLITICS - THE BIO-ENVIRONMENT - VOLUME I

Dr. Agni Vlavianos-Arvanitis, Editor. Volume of Proceedings of the First B.I.O. International Conference held in May 1987 (1988)(400 pp.).

## BIOS IN THE NEXT MILLENNIUM

Proceedings of a Francophone Symposium held in October 1987

## BIOS IN THE NEXT MILLENNIUM

Lecture by the Right Honourable Lord Ennals sponsored by the British Council and the B.I.O., May 1988.

## BIOPOLITICS - THE BIO-ENVIRONMENT - VOLUME II

Dr. Agni Vlavianos-Arvanitis, Editor. Volume of Proceedings of the Second B.I.O. International Conference held in October 1988 (1989) (543 pp.).

## BIOPOLITICS - PROTECTING THE BIO-ENVIRONMENT

Lecture by His Excellency The Ambassador of Israel, Mr. Moshe Gilboa, at the Third B.I.O. International Conference, June 1989.

## BIOPOLITICS - THE BIO-ENVIRONMENT

Presentation at the General Assembly of the Academy of Athens by Academician Professor Constantinos Bonis (in Greek), March 1990.

## BIOPOLITICS - THE BIOS THEORY

Dr. Agni Vlavianos-Arvanitis (Greek version) 1990 (English version 1990 and 1991).

## BIOPOLITICS - BIO-SYLLABUS

Brochure (Greek and English versions) 1989 (1990).

## THE BIO-ENVIRONMENT AND INTERNATIONAL COOPERATION

Dr. Agni Vlavianos Arvanitis, Editor. A Hellenic-Turkish Symposium, City Hall of Athens, May 1990.

## BIOPOLITICS - THE BIO-ENVIRONMENT - VOLUME III

Dr. Agni Vlavianos Arvanitis, Editor. Volume of Proceedings of the Fourth B.I.O. International Conference held in January 1991, including some presentations from the Third B.I.O. International Conference (1991) (683 pp.).

## THE INTERNATIONAL UNIVERSITY FOR THE BIO-ENVIRONMENT

Brochure in English (1991-1993) and Greek (1991-1992).

## BIOPOLITICS - THE BIO-ENVIRONMENT - BIO-SYLLABUS

Dr. Agni Vlavianos-Arvanitis - Alexander Oleskin, English 1992 Russian Translation (1993).

## BIOPOLITICS - BIO-DIPLOMACY AND INTERNATIONAL COOPERATION

Dr. Agni Vlavianos-Arvanitis, Editor. Proceedings of Hellenic-Russian Symposium held in Athens, December 1991 (in print)

## POPULATION GROWTH, FOOD SECURITY AND EQUITY

Proceedings of a Hellenic-Indian Day held in Athens, April 1993 (1993)

## BIOPOLITICS - THE BIO-ENVIRONMENT - VOLUME IV

Dr. Agni Vlavianos Arvanitis, Editor. Professor Rusen Keles, Co-Editor. Proceedings of the Fifth B.I.O. International Conference held in Istanbul, May 1992 (1993)

## BUSINESS STRATEGY FOR THE BIO-ENVIRONMENT - VOLUME I

Proceedings of the First Symposium on Business Strategy for the Bio-Environment held in Athens, November 1992 (1994)

## BUSINESS STRATEGY FOR THE BIO-ENVIRONMENT - VOLUME II

Proceedings of the Second Symposium on Business Strategy for the Bio-Environment held in Athens, December 1993 (1994)

## BIOPOLITICS - THE BIO-ENVIRONMENT - BIO-EDUCATION

Dr. Agni Vlavianos-Arvanitis Guidelines for the implementation of a biocentric curriculum, in Greek (1994)

## BIOPOLITICS - THE BIO-ENVIRONMENT - BIO-CULTURE

IN THE NEXT MILLENNIUM - VOLUME V  
Proceedings of the sixth BIO international conference, and International Sakharov Festival held in Athens, July 1994 (in print)

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# No Tourism Without the Bio-Environment

*continued from page 1*

waste are becoming part of a new way of running successful tourist facilities. A *bio-hotel* will be concerned with the health and well-being of the clientele, and, at the same time, be equally interested in preserving and protecting the bio-environment. As a result, guests will be offered cleaner air, ecologically compatible furnishings, organic foods and, above all, an establishment that is in harmony with the natural environment. Since the number of environmentally conscious clients is on the rise, this provides an unparalleled advantage for all concerned. Travellers can enjoy an environmentally friendly atmosphere and hotel owners can improve their business.

### Water, food, drinks and other commodities

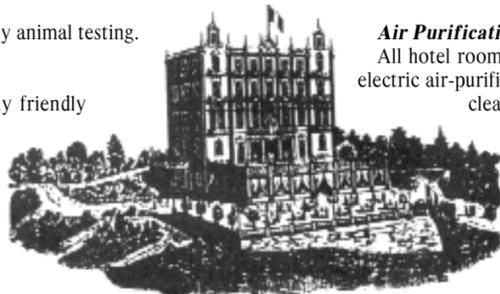
Drinking water can be purified by electro-dialysis so as to be free of chlorine and other harmful substances. Food can be organically grown and free of chemical additives. Clients could also be offered toiletries made from natural ingredients, supplied by companies

that do not apply animal testing.

### Materials

Environmentally friendly materials can be used, such as:

- Beeswax for the protection and polishing of wood;
- natural coconut fibre for mats
- fish glues, non-toxic vinyl glues and natural finishing products for furniture and parquets;
- natural plaster for double ceilings, building work and sheeting;
- bio-degradable paints and varnishes based on linseed oil, vegetal pigments and bergamot oil;
- pure linen, wool and cotton for service linen, bedspreads, curtains and carpets;
- futon, the natural cotton of Japanese padded quilts.



### Air Purification

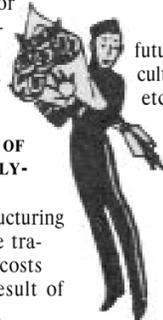
All hotel rooms can be fitted with electric air-purifiers, and filters, thus cleansing the air.

### Structure

Modern building can have extremely toxic effects as a result of the actual materials used in their construction, such as gases, mineral fibres and electro-magnetic radiation. Construction or restructuring a hotel should take this into account, when choosing such materials as walls, electric equipment etc.

### The aesthetic perspective

The overall design of a hotel must also take into account the need for beauty and artistry. The constructor must create everything with the eye of an artist and craftsman, down to the smallest detail.



clientele, and bookings will increase. Once its reputation has been established, it can, in fact, raise its prices and still maintain the same level of bookings. In practice, environmentally-friendly hotels have experienced a considerable increase in average returns per room and an improvement in operating margins.

### MANAGING THE ENVIRONMENT

Commercial speculation and illegal activity have already created such obvious disaster areas, that it is tempting to think that if we can only control these two factors, the environmental situation will right itself. However, the situation is now too serious to allow it such self-healing, and the damage done to the natural world is also damage done to the tourist industry, which relies upon it.

The solution must be more complex. Technicians, scientists, politicians and local government, must work actively together to define the balance between economic development and environmental health. The limits of acceptable development must be defined, taking into account society's needs such as employment, as well as the needs of the natural world, for its survival. The problem must be approached from many angles at once, theory and practice must be combined, in professionals who work in direct contact with the environment. Environmental awareness must begin at school, where future workers in the fields of tourism, agriculture, forestry, hydraulics, waste disposal, etc., will receive their first environmental education.

### THE FINANCIAL PROS AND CONS OF CREATING AN ENVIRONMENTALLY-FRIENDLY HOTEL

Environmentally-friendly re-structuring can cost up to 10% more than the traditional methods. Hotel running costs can also rise marginally, as a result of using bio-degradable detergents, differentiated waste-disposal methods, etc. However, the extended life of the structure and its equipment, lower maintenance costs and decreased overall consumption, resulting in lower fixed costs, should be set against this. The main factor is, however, the hotel's added attraction for the environmentally-aware client. If price parity can be maintained, the environmentally-friendly hotel will be preferred by such a

### REPLANNING THE PROJECT

With hindsight, it is clear that all the products of the industrial age are, from an environmental standpoint, full of mistakes. Planning of any kind, whether of a city, a building or an object, has never been controlled, in terms of its environmental impact.

Today's planners and designers are now studying materials and processes in terms of energy, for their durability, maintenance and projected consumption. Their overall environmental impact, rather than their theoretical use, or shape, must now become the primary criterion. □



**NIKOS SKOULAS**  
*Former Minister of Tourism, Greece. Views presented in: Business Strategy for the Bio-Environment, Volume II, Biopolitics International Organisation, 1994*



**DR. ABDULKADIR ATES**  
*Former Minister of Tourism, Turkey. Views presented during the Fifth B.I.O. International Conference, held in Istanbul, May 1992*

### THE ECONOMICS OF BIO-TOURISM IN GREECE

The importance of the role of tourism in economic development will have to be evaluated in the light of its effect on Gross Domestic Product. This will be based on the gross production value of annual tourist consumption both at national and regional levels, as well as on its effect on investment and employment activities. Together with these factors, the importance of the bio-environment, as well as environmental promotion, must also be taken into consideration in the procedure for forming policies for the development of the tourist industry.

We occasionally hear that economic benefits derived from tourism have an inevitable, negative counterbalance; burdening the environment, both natural and man-made, with a consequent degradation of the quality of life. On the other hand, it is believed that for the long-term survival of the tourist industry as an economic activity, it is necessary to protect the resources on which it is based.

This means that development of the tourist industry must be inextricably linked with the protection and development of our cultural heritage; the natural and constructed environment, the preservation and promotion of traditions, and the Greek way of life itself.

The quality of the bio-environment, the forest and water wealth, the flora, the fauna, their habitat, and the preservation of an environmental balance, are not simply factors which contribute to a better quality of tourist environment for the foreign visitor, but they decisively affect the quality of life of the Greek citizen. They are conditions for the survival of human society in the next millennium.

### THE BIO-ENVIRONMENT COMES FIRST

Today we try to develop and make people's lives easier without destroying the environment and upsetting the ecological balance of our planet. A thousand years ago, people were merely trying to survive. They were hunters and had good relations with the environment. In those times environmental concerns were not an issue.

Nowadays people need to be educated in Biopolitics in order to create a new way of thinking and a new philosophy about living habits, with the necessity for new information and new ethics for a new global lifestyle.

Economy and the bio-environment have to go hand-in-hand. We cannot give priority to economic development or be solely concerned about the environment while neglecting the unemployed. People must not be deprived of the basics; a healthy environment to live in, clean drinking water and good health facilities. Consequently, development is an imperative.

The effort should be to achieve good economic standards for people but at the same time be concerned about the environment. These are the concepts we try to implement. At the same time, we must be aware of threats to the bio-environment throughout the world and the fact that bio-diversity is in danger. Our responsibility is not only for the present, but also for the future generations.

There is a need for a new breed of politicians. These politicians should believe in planning and accepting responsibility for their electorate, and for the bio-environment and all living things. Caring for bio-diversity in all its forms should be the task of this new kind of politician.

Being very aware of the environmental problems before undertaking any kind of action or decision is imperative. We consider that the bio-environment comes *first*.

## Bio News Survey

*We would be interested to hear of any experiences you have had in recent travels. Problematic or pleasing, to pinpoint particular areas which need action, or success stories where positive action has been taken to heighten the tourists' experience of his/her chosen holiday place, while not harming the environment. Results will be published in upcoming issues of Bio News*

Country visited -----

Area ----- Date of visit -----

Comments -----

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Name & Address (optional) -----

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