

# NATIONAL BIOETHICS COMMISSION

## OPINION

### ON THE MANAGEMENT OF BIOLOGICAL WEALTH

The National Bioethics Commission discussed at several meetings the ethical aspects of biological wealth management issues that need to be considered as priorities by any modern society. Here, the term “biological wealth” includes the diversity of life forms that exist at a specific place and time.

The way in which the lives of other species are affected by human activity is no longer evaluated based solely on technical and economic criteria as was the case until recently. It has now become common place that this activity affects the quality of the natural environment, in particular downgrading and destroying sensitive ecosystems with direct or indirect implications on the quality of human life. This fact calls for an ethical assessment of the human intervention in the biosphere. The present opinion illustrates this critical approach and formulates a number of proposals that could contribute to an ethically acceptable management of biological wealth, especially in our country.

#### **I. The importance of biodiversity for humanity**

Under the Convention on Biological Biodiversity which was the outcome of the 1992 Rio de Janeiro United Nations Conference on the Environment and Development, “biodiversity” was defined as the “the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems”.

According to the current prevailing scientific view, the greater the biodiversity, the more chances for survival and adaptability for ecosystems that sustain human survival as well. Furthermore, new discoveries are constantly made using previously unknown properties of species (animals, plants or micro-organisms) able to improve the quality of human life,

for instance, through new pharmaceutical substances or new varieties of crops or animal races, and in addition to protect the environment.

Irrespective of whether there is a positive association between high diversity and the survival of ecosystems, it is a fact that:

- (I) biodiversity is significantly reduced as a result of human activity,
- (II) we do not accurately know nor are we able to reproduce the process of its creation, and,
- (III) we cannot predict the impact of the deterioration of ecosystems in particular when taking into account the changes of environmental conditions that are just as unpredictable.

All the above support the need to protect biodiversity as, among else, its reduction is very likely to have implications on the quality of life, if not on the survival of humankind.

A study of the geographical distribution of natural richness as reflected in the total biodiversity of a given area and the number of endemic species indicates specific areas of the planet as hot spots of biodiversity. The Mediterranean in general, and Greek ecosystems/wetlands in particular, have been identified as such hot spot areas for biodiversity that require protection and many areas of the country were included in the European network Natura for the protection of sensitive ecosystems. The management of the significant biological wealth of Greece raises a number of ethical issues that will be discussed below.

Several are the dangers that threaten biodiversity. Except for the indirect repercussions of climate change, caused by the greenhouse effect and by pollution of the environment in general, the most significant direct threats for biodiversity in Greece caused by the distraction or severe changes of the ecosystems that sustain it are the following: (i) the lack of effective protection of areas characterized as high ecological significance (e.g. areas belonging to the Natura network) (ii) agriculture, animal breeding and fisheries and in particular the high input, high yield practices and the practice of monoculture (iii) the urbanisation and mass tourism (iv) the flexibility in the determination of land uses and (v) the uncontrollable industrial development.

## **II. Human responsibility for the protection of biodiversity**

## *A. The ethical context*

### *1. The general relationship between development/environment*

The observation of major transformations in the natural environment mainly due to energy-consuming human activity (industrial, residential, agricultural, etc.) – like the greenhouse effect, the depletion of the ozone layer, causing a rapid climatic change – has inspired a discussion about combining the notion of “development” with environmental protection. The use of terms such as “sustainable development”, “green development”, etc. indicates an awareness of limits to the unhindered exploitation of natural resources and ecosystems.

It is true that part of the scientific community considers “sustainable development” as a contradiction in terms arguing that any further development factually and directly undermines the conservation of life as we know it. Even accepting this view, however, the need for environmental protection becomes all the more urgent rather than obsolete.

The environment does not have unlimited resistance, therefore it cannot sustain a constantly growing development of our productive activities. For this reason, the environment cannot be an ethically neutral reality but emerges as a value – an individual and particularly a social one.

In this sense, the Commission adopts as a starting position that, although the economic activity of the individual or of the society as a whole are also recognized values, they cannot endanger the environment without any consideration.

### *2. Biodiversity and responsibility to future generations*

These general assumptions apply to biodiversity as part of the natural environment.

The Commission considers that the protection of biodiversity constitutes a specific environmental value mainly because it is associated with the responsibility of the present for the future generations. Notwithstanding the fact that species, like individuals, have a finite life span – and as a consequence many species have regularly become extinct from the apparition of life to the present – the preservation of current life forms is not ethically neutral, particularly because the pace of extinction is significantly accelerated by human

activity. Indeed, since the species' variability is believed to ensure the balance of ecosystems, which ensure survival of our species, present generations have a moral duty to preserve it for the sake of future generations. The objective dimension of human value – the interest in the conservation of our own species – is the foundation of this duty, ultimately a form of intergenerational “solidarity”. This solidarity entails limits to the management of biological wealth and precludes the selfish maximisation of its exploitation by present societies for economic or other purposes. Furthermore, and for Greece in particular as it is hosting among the highest densities of biodiversity relative to its territory worldwide, the protection of this wealth is not only a matter of solidarity to the next generations but also to the rest of the world.

### *3. The importance of the “precautionary principle”*

The impact of the extinction of species and of the alteration or destruction of ecosystems on stability of life in general and the survival of the human species in particular is not fully understood. Moreover, the impact of biotechnological applications, e.g. genetically modified organisms, on biodiversity is also unclear. It is due to this lack of knowledge that the protection of biodiversity is best served by the precautionary principle. According to this principle, environmental protection measures must be taken not only when there is certainty of damage but also when there is a risk of damage.

The Commission estimates that a prudent application of this principle is crucial with the provision that it promotes rather than discourages research aimed at the identification of risk factors. If the latter provision is not met we would have to accept the suspension of all research activities or technological innovation, adopting a generally “phobic” attitude towards the development of research and technology. This would obviously be in direct contradiction with the values of an open society and with progress.

## *B. The Law*

### *1. Adoption of special regulations*

The Commission witnesses an ever increasing interest, the last decades, for the adoption of general rules for the protection of biodiversity at the level of international and EU law. Instruments like the UN Convention on Biological Biodiversity (Rio de Janeiro) or Directive 92/43 establishing the network Natura 2000 for sensitive ecosystems are two important points of reference. A plethora of specific laws on the protection of particular cases, especially endangered species, are also in effect. This shows that the value of biodiversity is not merely wishful thinking but has become binding.

## *2. The situation in our country*

Our country has adopted these instruments and in addition has enacted national legislation. However, the Commission draws attention to views of public bodies and non-governmental organizations about a deficit of enforcement of the existing regulations.

This inadequate protection of biodiversity is due to many reasons, the main of which are limited knowledge about our biological wealth, lack of clearly defined land uses (especially with regards to farming, animal breeding and forest land), a misconception of the environment as a “local” issue by central government and the extremely limited jurisdiction of law enforcement authorities. The underlying reason, though, is the absence of a modern education, focused on the importance of environmental values.

## **III. Proposals**

With the above facts in mind, the Commission believes it is important that the State considers certain proposals on the overall management of the country’s biological wealth.

### *A. General proposals*

A more efficient protection of biodiversity requires the adoption of certain measures of broader environmental protection policy. Such measures may include the following:

1. Environmental protection must be recognized as an essential component of national policy-making. It is a fact that environmental issues cut across the remit

of more than one ministry, as well as that of local authorities. For this reason and to avoid conflicts of interest and jurisdiction in decision-making (e.g. environmental protection and public works policy) it is necessary to find a government arrangement that will ensure effective central planning of national environmental policy and effective intervention in order to meet the goal, which is the protection of biodiversity and of the environment in general.

2. The government needs to design specific incentives and support actions for “green business” by developing jobs aiming (among else) on the protection of biodiversity. These actions must be long-term and competitive compared to traditional economic activities especially in the pressing conditions of the current economic crisis.

3. Enhancing environmental education and raising awareness amongst citizens of all ages but with emphasis on all educational levels. Non-Governmental Organizations (NGOs) involved in environmental action are expected to play an important role in this. The development of NGO activities that promote these objectives at all educational institutions nationwide should be encouraged and supported.

### *B. Special proposals*

In addition to general measures, the Commission proposes the following for consideration:

1. To coordinate and support research, particularly in monitoring changes in the national biological wealth, by assigning this responsibility to an entity and ensuring constant cooperation with universities and research organizations.

2. To produce a complete inventory and mapping of the country’s sensitive ecosystems (Natura areas), to determine the allowed activities within such areas without delay and to broaden the enforcement mandate of the independent management authorities.

3. To reinforce the mandate of control of the judiciary (e.g. broadening the application of involvement of the public prosecutor for the environment, the availability of technical support in order to reinforce the evaluation capacity of the Judicial Review Court especially with regards to environmental impact assessments).

4. To adopt a policy of agricultural development based on the protection of biodiversity and of the environment in general by promoting sustainable farming practices that protect biodiversity and by raising environmental awareness in this respect.

5. To ensure transparency in land planning and the protection of fixed land uses and to pursue the optimal long-term utilisation of land depending on its properties.