

THE ECOLOGICAL EDUCATION – BETWEEN DESIDERATUM AND REALITY

GH. POPESCU, I. COSTACHE*, D. RADUTOIU

Faculty of Horticulture, Department of Biology, University of Craiova, 15 Libertatii Street, 1100 Craiova, Romania

E-mail: iuliuscostache@yahoo.com; radutoiudaniel@yahoo.com

Abstract. The World Strategy of Preservation, elaborated by IUPN (The International Union for Preserving Resources and Nature), within PUNE (The Program of the United Nations for Environmental Protection), defines the preservation of natural resources as: the way of using it so that the present generations should obtain a maximum profit due to it, but under the condition that these should maintain their potential for the existence and welfare of the next generation, too. In the historical province of Oltenia, there were identified and set under protection very many areas.

Keywords: ecological education, strategy, program, environmental, protection.

AIMS AND BACKGROUND

All the measures which were taken by human societies in order to protect the environment, to improve man's relations to nature, were grouped in Romanian language under the syntagm 'eco-protective actions', which is a substitute for the English terms of 'conservation, protection, preservation'.

A very important chronological reference point regarding the comprising area of everything that means environment, starting from the problem of polluting life environments (air, water, soil), passing to demographical and environmental resource problems, and up to the interdependence between economy and the systems within the environment that support it, is represented by the UNO Conference on Environment, in June, 5-12, 1972, in Stockholm. It was here where some basic principles were elaborated and which have to be an active guide for all the decision-making factors, belonging to some country, and also, for the inhabitants, the companies and the institutions at every level, in order to protect the environment; the economical and social development of a country depends on it. Finally, it is about the welfare and the life quality of a nation. It is also necessary the collaboration with the international committees for a convergent action, for a global and world action. The 5th of June was declared the International Day of Environment, day which, honestly speaking, is not adequately celebrated at any

* For correspondence.

level.

Given the present conditions of various activities of human societies upon the environment, it is necessary the diversification and enlargement of the solutions be suggested at a local level. All these eco-protective actions are best expressed in the well-known phrase 'it's time to think globally and to act locally'.

There was a time when it was considered that there might be irremovable contradictions between nature preservation and the socio-economic development of a certain country.

In a broader concept of preservation, according to IUPN, it includes the protection, maintenance, continually usage and improvement of natural environment.

The concept of lasting development has been ever more used lately. Within the same above-mentioned strategy, it is defined as the assembly of using resources – human, financial, of the biosphere and of natural environment – in order to satisfy the human needs and the improvement of the quality of human life.

Therefore, both the lasting development and the preservation constitute two aspects of the world strategy that serves the interests of humanity. By means of his development, the human being achieved his goals, together with the usage of the biosphere; by means of preservation, one can be sure of the possibility of permanently using them, not only by the present generations but also by the future generation.

All the initiated eco-protective actions, globally or locally, must finally lead to the biodiversity preservation. This thing can be achieved through assuring the continuous life cycle of some plant and animal species, which will later prove their great importance in creating new types of cultivated plants or breeds of animals, necessary for feeding humanity. Closely connected to this, we have the preservation of some natural and semi-natural environments, with all their biodiversity, with the habitats the most vulnerable species depend on, of their survival.

Through the zoo-anthropogenic activities, there often appeared an alteration of the forest and natural meadows structure, the moist areas decreased even if they represented habitats for numerous vegetal and animal species. It is also stressed the modifying action upon the natural ecosystems in the mountainous and alpine region, but also in the largely populated plain areas.

At the same time with the more intensified zoo-anthropogenic actions upon the natural ecosystems in Romania, through the interventions of specialists, of scientists and of some decision-making factors, there existed an initiative for protecting representative perimeters in all natural ecosystems in the plain, hill, and mountain region. Thus, a network of natural reservations was constituted, which benefits of a juridical status of protection. In Romania, their number is

almost 800, on a surface of about 1 200 000 ha and this represents about 4.8% of Romania's territory.

In the historical province of Oltenia, there were identified and set under protection the following protected areas, as follows:

1. The Natural Park 'Portile de Fier' (The Iron Gates) – in the county of Mehedinti.

2. Scientific reservations: mixed reservations: 2 (in the Gorj county), speleological reservations: 2 (in the Gorj county), 1 (in the Mehedinti county);

3. Natural reservations: botanical: 3 (in the Valcea county), 2 (in the Gorj county), 9 (in the Mehedinti county); forestry: 5 (in the Gorj county), 6 (in the Mehedinti county), 2 (in the Valcea county); mixed (botanical and zoological): 11 (in the Gorj county), 11 (in the Mehedinti county), 11 (in the Valcea county); paleontological: 6 (in the Gorj county), 2 (in the Mehedinti county), 1 (in the Valcea county);

4. Landscape reservations: geological: 5 (in the Gorj county), 2 (in the Valcea county); mixed: 2 (in the Gorj county), 2 (in the Mehedinti county); speleological: 6 (in the Gorj county), 11 (in the Valcea county).

There are some goals to be achieved for the protected areas in Romania, including those in the region of Oltenia:

- A correct and scientifically based assessment of the whole natural capital our country possesses in order to act for the protection of some areas, being fully aware of.

- The founding, on the basis of those existing and the ones that are going to be identified, of a network of protected areas which should cover the whole diversity of the existing ecosystems.

- The efficient administration of these areas, on the basis of some management plans and structures, the way it is in most civilised countries. Besides the Danube delta reservation, which has its own administration, starting in 1999, management plans have started to get shape, locally, and based upon them, there were constituted own administrations for some other three protected areas: The 'Retezat' National Park, The 'Bucegi' National Park – Piatra Craiului, which was the result of the union of two national parks, and the Vanatori – Piatra Neamt reservation of boars, created for the re-introduction and re-colonising of the European boar in liberty. These must become models for making other management structures, for other protected areas.

The agriculture, by means of draining some moist areas or irrigating the arid areas, destroys numerous rare habitats, which can lead to the disappearance of some stenochore vegetal or animal species – those adapted to very low ecological conditions of life. Using the fertilisers, the pesticides, herbicides, etc. on the cultivated areas causes a negative influence on the neighbouring natural areas, where

different types of plants and animals grow.

Once many fields and woods passed, after 1990, to private property, subjective conditions were created and led to the disappearing or diminishing of the habitats, which sheltered rare or vulnerable species, exposed to the danger of extinction. The scientists (biologists, ecologists, etc.) must know very well the natural capital of a certain area or of a certain country and must intervene to get a favourable attitude from the new land-owners, to permit a part of their property to be evaluated naturally, without chemical, mechanical interventions, etc. The discussion must be carried from man to man, and one must be told what botanical or zoological pattern/objective is on his property and whether there is something on his neighbour's one. This could be a way to save from extinction rare plants or animals within a limited specific spreading area; once vanished, it would be practically impossible to restore them. There is a large amount of examples of this kind in the specialised literature. The Botany Department has tried with the plant *Ziziphora capitata*, found in the private meadows of Valea Rea – Radovan – Dolj county.

Tourism is an economic activity, but with very important ecological and preserving implications on the environment and on the biodiversity. It brings important benefits both to the people who organise it and to those who practice it, but it can cause huge damage to the protected area, the environment or to the landscape, in general. The pressure of the tourism upon the most well-known places is continually growing. The most beautiful natural areas, often with unique and important landscapes from the scientific and historic point of view, suddenly become places for tourism, sometimes for a longer period, in order to practice sports. Quite often, the tourist facilities get into conflict with the objectives of preserving flora, fauna, and they spoil the natural landscapes.

Let us take, for example, the region of Oltenia, with its special landscapes, starting from the Danube river to the top of the Parang mountains. Many of these also have the status of protected areas: natural and scientific reservations, botanic, zoological, mixed, forestry, geological, speleological, paleontological, etc. Tourism is practically performed by anybody, beginning with children and ending with the aged persons. What is our behaviour in the middle of nature, of natural environment, or semi-nature, or the artificial one created by the leaders of the towns just for an increase in life quality? Here it is the level of instruction, civilisation and education which intervenes, level belonging to individuals, community or nations.

The instruction and education start in schools and must not be interrupted. The teacher offers information in the domain of natural, humanist, and realist sciences. This knowledge is differently acquired by a child, a teenager or a grown-up; it is also different the way it is put into practice, the way he learns it in order

to transmit it later to other people. Instruction and education are complementary actions, which must contribute to the forming of the skills, of the behaviour in relation to other men or to all other objects that surround him. Education has many aspects, but in its essence it must form man as a citizen, with a general and specialised rich culture, with a decent behaviour in all the situations life confronts him to, a man who should appreciate not only the human values, the scientific, cultural, and artistic creations, but also the creations of Nature, of the environment, which can invigorate him in weekend or during holidays.

In the educational programs after 1990, one stresses upon the introduction of the ecological education at all levels, and the syntagm 'lasting development' must represent a corollary for the relation Human – Nature.

The goal of this ecological education is represented by the formation of some attitudes denoting respect for the environment, of some global ethics, materialised in the following principles: respect shown to other people and to all living creatures; respect towards nature, as a whole, a support for the present, but also for the next generation.

The educational process is not easy, as it does not take into consideration only a social category, and a simple geographic relationship. The difficulty of the educational process is increased by the founding of some mentalities, by the fact that it is directed towards future, an uncertain thing and not something actual, of perspective, with immediate benefits. The most serious thing is not the anti-ecological behaviour of some of our fellow-men, but what can not be noticed, something that goes to the person's conscience and collective spirituality of society.

Man's attitude towards nature has depended and still depends on the level of instruction, of education, of self-education, and also on the level of culture acquired at a certain moment. We speak about an ecological or eco-civic education, as the surest way of preserving the environment, generally nature. Every citizen must have an ecological attitude, must admire the harmony of nature, the vegetal and animal diversity, take photos, and write down as many things as possible about nature. He or she must tear no plant or piece of a plant. Moreover, the litter must be collected into bags or sacks and taken to be put into the dustbin. In many places, one can see the consequences of some visits of the tourists in the area, with lasting effects. Nature has the capacity of self-cleaning, but if there is an accumulation of trash, especially made up of plastic materials which can not be decomposed (some bacteria which can do this have been discovered recently), they are a serious source of pollution for the area, and they can create a para-natural environment unknown to the vegetal species. Very few can adapt, but most of them disappear. Each species has its own place in the economy of nature, so that a generation should not be indifferent to the biodiversity decrease,

biodiversity being a component of the socio-economic development and the welfare of a nation.

The visiting card of a household, of a community, of a town, or of a country is the cleanliness. One can easily recognise the print of this visiting card, all over the place. Although the information related to ecology is taught in school, at all levels, there is still much to do for an ecological behaviour, in order to preserve the cleanliness, to maintain the anthropogenic systems (gardens, parks, flower beds in the towns), ready to improve life quality. We were convinced about the valences of the ecological education (for the environment) as a result of a research journey we took to two botanical gardens in Sweden, a real model of socio-democracy, which is a good option for us to follow. The two naturalists, who accompanied us whenever we visited a protected, a geographical, or landscape area with a special significance to their country, watched us permanently. We reached a place where grows the only species whose name is to immortalise the great world naturalist, the reformer of botany, C. Linné. The name of the species is *Linnea borealis*, and it is a herbaceous plant with flowers 8 to 10 cm in height. Although it is found in large compact populations, we had to ask permission to collect some specimens for the Herbarium of the Botanical Garden in Craiova. When visiting a swamp on the shore of the Baltic sea, we found a common for us plant *Salicornia herbacea*, abundant on the salty areas in our country. One of us made the mistake of pulling out of the ground a specimen in order to have a discussion with our hosts about problems of variability and specific spreading areas for this particular species. When the two naturalists saw one of us, plant in hand, they looked to each other, then they looked at us rather upset and we realised that it was not a good thing pulling the plant out of its ground. I took a few steps behind and put the plant back to its place.

The way we should act when visiting a botanical garden, park, or a green belt within a certain city is best illustrated, we think, by a story told by Academician Alexandru Ciubotaru, the manager of the Botanical Garden in Chisinau. In one of his visits to a University in Belgium, one afternoon the hosts took him to visit the botanical garden in the town. Sitting on a bench, Alexandru Ciubotaru tore a leaf belonging to a shrub which was growing nearby. The reaction of his host was prompt: 'Dear God, what have you done?' He apologised politely and according to his account, this thing represented more than tens of classes of education, generally speaking, particularly on ecological education – the ecological ethics and aesthetics – the ecological behaviour, the respect one has to show to nature and environment.

The ecological education has to be a continuously developing process and it must address, in a different way, to all categories of age, no matter of their philosophical or religious orientations, by using specific means. The educators

must be trained at their turn, in order to present, in an accessible way, general and also specialised information, to be listened to by the audience, to stimulate the discussions and the participation of all those involved in these classes to debate upon concrete aspects of everyday life.

The human being can not exist but within a living nature, with various structures and components which generate material and spiritual goods and also create comfort, ambience, a refreshing state, both physically and mentally. After acquiring some behaviour norms, of civilised attitude no matter of the situation, one can talk about an ecological conscience, too. There are multiple aspects which consider the foundation of an ecological conscience, but we think that the most important one is man's position within nature, his relation to other living creatures. The old opinion that 'man is the master of nature' must be replaced with another one sprung out from the nowadays objective reality: 'man – a wise partner to nature'. Therefore, human being is no longer a singularised creature, but he finds himself within the centre of an universe of inter-relations with all the living creatures his future depends on, on Earth. All the other species of the biosphere constitute an essential part of his existence. Through his behaviour, man has no right to diminish or destroy the biodiversity his present and future depend on, and also the future of the next generations. The efficiency of the ecological education must be reflected into the ecological behaviour no matter the place: field, forest, park, the bank of a river, of a lake, etc. If one can not find, the next day, 'traces' of man's passage through these places, one can affirm that we have started developing an education and respect for our ambience, we have started to acquire an ecological behaviour and not an anti-ecological one. No matter our location, we should admire the landscapes, nature in general, take photos of them. It is out of the question tearing plants to adorn our cars with them, and finally to notice that they withered and to drop them away.

Man is neither above, nor outside Nature, but he is within a network of interrelations to all the abiotic factors and also to all the living creatures. His life quality and his future on Earth depend essentially on the way he will administrate and protect the environment. The efficiency of the ecological education must make man aware of his place on Earth and choose the right way to fully assure him a permanent place on Earth.

CONCLUSIONS

The ecological education has to be a continuously developing process and it must address, in a different way, to all categories of age, no matter their philosophical or religious orientations, by using specific means. In the historical province of Oltenia, there were identified and set under protection the following

protected areas, as follows: The Natural Park 'Portile de Fier' (The Iron Gates); scientific reservations (5); natural reservations (69); landscape reservations (28). There are some goals to be achieved for the protected areas in Romania, including those in the region of Oltenia, *inter alia*, there were constituted own administrations for some other three protected areas: the 'Retezat' National Park, The 'Bucegi' National Park – Piatra Craiului, which was the result of the union of two national parks, and the Vanatori – Piatra Neamt reservation of boars, created for the re-introduction and re-colonising of the European boar in liberty.

Received 23 May 2003

Revised 18 August 2003