

ECOLOGICAL EDUCATION

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Abstract

While in most emerging and developing countries, the population has a lower ecological footprint in the developed countries have a larger footprint.

There is also an alarming contrast between a person perception of her liability for damages to its environment and its actual size. These misconceptions may have their source in the absence of awareness of risks from climate change, culture or religion.

The purpose of this study is to analyze the situation at the international and Romanian level and to draw attention on the necessity of an ecological education.

Keywords: environment, sustainability, ecology, education, liability

I. Introduction

If the life of our ancestors left few footprints on the nature, contemporary prints have become dangerously large.¹

National Geographic published the study “Greendex Study 2009”² regarding the sustainability behavior of consumers, *Globe Scan Research Institute*.

The study finds that while in the emerging and developing countries the population has a lower ecological footprint, in developed countries the footprint is larger. The explanation lies in the fact that consumer behavior is affected not only by people’s choices but also by external factors such as income, climate and infrastructure from that country.

For example, consumers in developed countries often decide to buy their own car, travels alone in the car, buy bottled water, etc.

It was also found that there is an alarming contrast between the perception of liability for damages to their environment and the real dimension of it.

For example, the population of India is feeling the most responsible for the damages brought to the environment (52 %) and believes that their life style is harmful (47 %), while only 14% from Germans consumers and 23% Americans are feeling responsible and only 9-10% believes that their life style is harmful.

These misconceptions can originate from the lack of awareness of risks resulted from the climate changes, in culture or religion.

In other words, technical innovations, public policy and state regulations can be effective only if people are aware of the risks and participate in their quality as polluters, producers or consumers of goods, citizens and voters in decisions regarding the society.

The role of consumers, related to the rapid evolution of climate and environment changes, was never properly taken into consideration.

Although the moral consumption is fashionable, most consumers lack the will to adjust their shopping habits and lifestyles to the climate changes.

But why is there so often a gap between the mind and behavior in everyday life?

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¹ Kofi Annan .

² <http://blog.goethe.de/climate-worlds/categories/3-Sustainability- and - Ethics>.

What are the cultural and moral premises for sustainable consumption and which are the common strategies of the companies and consumers that are confronted with the impact of climate changes?

All these questions are answered by Ecology, part of civic education.

II. Paper Content

1.1. Education / Ecological Culture

The idea of correlation between ecological education and civic education has its foundation in Frederic's Mayor Statement performed at the World Congress of Natural Sciences.

According to him, „ Humanity's future is tied to global environmental protection systems and we do not have a better way to achieve this, than through science - science for peace, development and a democratic society based on equal opportunities ”.

It requires the creation of an ecological culture that would have the effect of stimulating the type of ecological consciousness and behavior that lead to ecological sustainability.³

This will be achieved only by acquiring knowledge related to: composition, structure, function and evolution of natural populations, biocenosis, ecosystems, biosphere, the principles of interaction between the individual and society, on one hand and nature, on the other hand , according with the requirements for durable development (sustainable).

The keywords for environmental education ⁴are: material and intellectual ecological culture, responsibility, global ecological problems, ecological balance, ecological crises, skills, knowledge, competences and, ultimately, durable development (sustainable).

We will talk only about few of them:

- *Ecological culture of the individual* is a combination of ecological knowledge acquired consciously and its views regarding interaction between all forms of life and environment, regarding the place and the role of the human as bio-social being. This determines the rules of interaction between man and nature both as individual and on community level or globally.

- *Ecological material culture* includes technological developments that lead to ecological sustainability of industrial production (for ex. equipment for controlling environmental pollution, for purifying the environment or that leads to producing less wastes)and the “friendly” products for environment as household appliances, cleaning products, clothes, etc.

- *Ecological intellectual culture* includes : knowledge of events and environmental issues, laws, opinions, beliefs, prudence, intentions, theories, assumptions and hypotheses which aim to create social development and sustainable balance between humanity and nature.

- *Ecological responsibility* is based on strong belief in the objectivity of environmental rules and awareness of environmental rules prohibiting their violation.

The culture and responsibility are in a strong connection that leads to the issuance of appropriate rules.

³ Ecological sustainability is defined as the capacity of ecosystems to maintain essential functions and processes and to retain biodiversity in full measure over the long term - <http://www.businessdictionary.com/definition/ecological-sustainability.html>

⁴ Environmental education is a learning process that increases people's knowledge and awareness about the environment and associated challenges, develops the necessary skills and expertise to address the challenges, and fosters attitudes, motivations, and commitments to make informed decisions and take responsible action (UNESCO, Tbilisi Declaration, 1978) – http://en.wikipedia.org/wiki/Environmental_education

The Ecological News is given by the major problems that human civilization globalize is confronted lately especially those connected to exponentially increasing human population and the increasing environmental impact produced by an economy increasingly higher.

The problem of finite resources, raw materials and fossil energy accessible, the pollution problem of diverse types, like climate changes, global biodiversity decline, desertification and the decreasing of the surfaces covered by forests, all this are fundamental issues in the debate on the future of our civilization.

In a first conception of environmental education, there must be an overlap between the theoretical and practical activities that need to support each other and individual can quickly progress in understanding the nature and in rethinking the approach to nature and society.

The formal and non-formal ecological education must be grounded in the compulsory education system but it should continue throughout the individual existence.

The diversity of the ways to achieving this is extraordinarily high: from the compulsory education classes to transferring the information through mass-media, classes, trainings, artistically activities, ecotourism, etc.

In another opinion,⁵ the ecological education should be carried out over the entire life, non-formal, through a series of practices in different cultures, transmission of knowledge about different practices in communities or educational practices.

In this conception, the ecological education shouldn't be seen as a new science but as a long practice of lifelong learning and social transmission of knowledge in all spheres of life.

This concept belongs to the experts of UNESCO who have developed several continuing education programs of Alpha 94 and Alpha 97 that relate to sustainable development.

ALPHA 94 is developed on the crisis in rural areas of several regions in Europe and USA, and explores local initiatives for cultural development. Among the solutions offered by the program are: social assistance to those remaining in these areas, resistance to not forgetting the culture (environmental component) and the mobility of regional natural resources.

ALPHA 97 is centered on the development of adult education policy according with the demands of communities.

It is found that the participation of all individual in taking decision that regards their lives is central.

2. Ecological Education in Romania

In Romania, the ecological education is done through school programs, through introducing the Ecology and Environmental Law as a compulsory subject in university education, through extracurricular actions, by mass-media, giving the public the access to environmental information and last but not least, the development by the Ministry of Environment and Forests to some strategies and eco-guides having the purpose to educate target subjects to adopt eco-responsible behavior.

The concept of durable development (sustainable development), which is the central pillar of environmental education, stipulated in art.2 p.23 and art.3 let. g from OUG.195/2005⁶ regarding environmental protection, establishes the principle of sustainable use of natural resources and in regional legislation.

The principle of sustainable development implies respect and care for living organisms, life saving and biodiversity on Earth, a reduced use of non-renewable resources, participation in actions to awareness of environmental hazards and participating to action of saving it.⁷

⁵ Jean -Paul Hautecoeur – “ Ecological Education in Every Day Life “ - Unesco Institute of Education- <http://www.unesco.org>

⁶ Framework Law was published in Official Gazette, *Part I nr. 1196 din 30/12/2005*

⁷ Planting trees, ecological environment (ex. “ Let's Do It Romania “), establishment of protected areas, respecting the regime of hunting and fishing and the regime built, ordering the owners to expand the line of hedges, controlled waste disposal , recycling of waste and water, etc.

2.1. Plans, Programs, Strategies and Daily Information Regarding the State of The Environment

Ministry of Environment and Forests adopts every 4-5 years, strategies, programs and action plans for protecting the environment and to remedy its damage.

The strategies and programs establish the objectives that central and local public institutions have to meet (for ex. reducing the pollution in agglomerations in which they exceeded the permissible values)⁸ either in cooperation with civil society or by empowering / determination to respect the objectives established. The plans indicate the means that will be used to reach these objectives, for ex. adoption of rules setting emission limit values or standards.

These strategies, plans, programs and information are adopted taking into account the specific problems encountered in Romania and the local culture and are published daily on the website of the Ministry of Environment and Forests⁹ in order to inform, educate and make it aware of the environment problems, for the measures that have to be taken for protecting the environment and for sustainable development.

As an example we mention:

- *National Strategy and National Plan for Environmental Protection in 2004-2013;*
- *National Strategy and National Plan for Atmosphere Protection;*
- *National Program for Reducing Emissions of Sulfur Dioxide, Nitrogen Oxides and Dust from Large Combustion Plants;*
- *National Program for Combating Climate Warming;*
- *Master - Flood Risk Reduction Plan in Prut- Barlad river basins;*

2.2. Eco- Guides and Codes of Practice

Eco- Guides and Codes of Practice addresses to a target group and contain a series of recommendations, without the power of law that aim to educate regarding the group behavior that must be adopted to protect the environment.

Through this is established the intellectual ecological education and the ecological responsibility.

If the code is adopted by a law, decision or order, it gets the power of the law and the violations of conduct set forth in this, often attracts sanctions (ex. Code of Good Agricultural Practice).

Among the eco-guides prepared by the Ministry as: Citizen Eco-Guide, Eco-tourists Guide, Public Servant Eco-Guide, Guidelines on Access to Environmental Information, Guidance on rules for Detergents.¹⁰

2.2.1 Citizen Eco-Guide is aimed at attracting attention, promotion and awareness of major importance to the environmental protection by presenting eco-instructions to every citizen . It is divided into four main chapters in which the main daily activities of the citizens are offered eco-instructions .

In the first chapter entitled “**Eco-Instructions for Home**” the citizens are educated on : reducing water consumption and avoid wastage, reducing energy consumption and avoid wastage, reducing and selecting removal of quantity waste, action against noise pollution, etc. They are advised to act to prevent further leakage of tap, to consume preferably tap water to avoid creating waste in the form of PET and save energy, to the use of equipment with low power consumption, to make thermal rehabilitation works, to using biodegradable detergents and cleaning products, to not discharge toxic products in the drains, to evacuate waste selectively, to preserve peace, etc.

⁸ Gabriela Gyongy MIHUT- “Environmental Law “-course for students from ID, (Ed University, 2010), p.38

⁹ <http://www.mmediu.ro>

¹⁰ <http://www.mmediu.ro>

The chapter entitled **"Eco-Instructions for the Job/Place of Work"**, along with the instructions in the previous chapter includes instructions for submitting electronic documents to avoid the consumption of materials, maximum use of natural light, etc.

The third chapter entitled **"Eco-Instructions for Shopping"**, aims to educate citizens as consumer. It is recommended to purchase eco-labeled products, agricultural products and foodstuffs from ecological farming, to avoid buying disposable products which rapidly increase the quantity of waste, avoid buying plastic bags and buying those from material or paper or avoid purchasing products based on aerosol or sprays and avoid going shopping by car.

The last 2 chapters entitled **"Eco-Travel and Eco-Instructions Instructions for Leisure"**, urges to drive at moderate speed allowing emission reduction, to ride by bike or by foot, possible use by others of the same car, parking in spaces specially designated, hunting in permitted periods, garden design, immediately inform the authorities in case of environmental accidents, etc.

2.2.2. As a result of awareness of tourism development in Romania and the increased number of tourists, Public Policy Unit of the Ministry of Environment and Forests developed **"Eco-Tourist Guide"** includes instructions on how the tourists have to behave on mountain vacations, to the sea, in urban and rural environment and instructions on transport.

The Guide includes instructions similar to those mentioned but according to custom tour. Tourists are taught to protect species of plants, animals, birds and fish, to consider the signs, get rid of garbage in special places, to use boats that do not pollute, to participate in activities with environmental impact, to use, preferably a single car, etc.

2.2.3. Public Servant Eco-Guide includes mostly the same custom instructions to the work of public servant. It is worth mentioning that these instructions have begun to be implemented by both the population and the administrative authorities. Thus some Romanians private individuals or companies had developed a project to go to work with the same car several people from different families, actions of replanting trees, setting up the parks and green spaces, ecological actions in which the most famous remains the action **"Let's Do It Romania"** that had its purpose to clean the environment of waste. This action done on an international level has attracted people from different backgrounds : corporate, police, education.

2.2.4. Guidelines on Access of Environmental Information

The Guide drafted in the HG.878/2005¹¹ by the Ministry of Environment and Forests in collaboration with the National Environmental Protection Agency and its purpose is, to educate population regarding their rights to have access to information related with the environment and to formulate opposition, requests or requires the introduction of additional condition to protect the environment in projects that asked for permit or environmental authorization.

It contains :

- list of normative acts which gives the right to citizens to have access to any environmental information without justifying the purpose and without paying any tax, in order to protect the right to a healthy and ecologically balanced environment¹² ;
- the concept of environmental information and exceptions;
- indication of institutions that hold this information and that will be required to provide the form that is needed to be taken requesting the term for its solution;

¹¹ HG.878/2005 regarding the public access to environmental information - Published in Official Gazette, Part I no. 760 of 22/08/2005

¹² Aarhus Convention (1998) on access to information, public participation in decision taking and access to justice in environmental matters - ratified by L.86/2000, Directive 2003/4/EC on public access - to environmental information, OUG.195/2005 environmental protection, L.554/2001 on access to public information and HG.878/2005

- teaching the applicant to take court action in case of failure, refusal or rejection of his request.

The information provided aims condition and quality of external elements of Human organism(air, atmosphere, soil, landscape, biological diversity, genetically modified organisms, etc.) factors that affect or may affect the environment (chemicals, energy, noise, radioactive waste, etc.) human health (e.g. effects of air pollutants coming from industry on human health).

Information providers are the National Agencies, Regional and Local Environmental Protection, National Environmental Guard and other institutions with competence in the field such as : Ministry of Agriculture and Rural Development, National Institute of Statistics, local governments, etc.

Through this guide, people are empowered ecologically being achieved a component of environmental education : responsibility.

2.2.6. Guidance on rules for Detergents

It was adopted under Regulation (EC) nr.648/2004 and includes information on the composition and effect of detergents, information that the manufacturer must provide to the health professionals, to the state institutions and consumer in writing, through labels and websites.

2.2.7. Codes of Best Practices

By Order nr.1270/2005, Ministry of Agriculture and Rural Development adopted “**Code of Best Agricultural Practice for Waters Protection against Pollution with Nitrates from Agricultural Sources**”¹³ which aims to recommend the most useful practices, measures and methods possible to apply by each farmer or agricultural producer in order to protect water against pollution caused by fertilizers (especially nitrates), coming from agricultural activities and promote sustainable agriculture.

This is a set of scientific and technical knowledge regarding the effect of various fertilizers on water, soil, subsoil and atmosphere and on agricultural management, knowledge that properly implemented leads to obtaining higher quality productions and environmental conservation restriction on its adverse consequences .

The Order identifies the areas with problems and educates people whom it is addressed to the pollutant nature of agriculture.

In the Order it is shown that „In terms of agricultural intensification, crop production growth and rural development, agriculture can not be considered as sustainable for farmers and society to which they belong, it is not beneficial.” .

In December 2005, were also adopted “**Guidelines for Good Hygiene Practice and Production in Bakeries and Confectionery.**”¹⁴

The guide contains instructions of major importance for confectionery operators which has to act by optimal hygienic practices of production and distribution and to ensure the reduction and even cancellation of biological contamination physical and / or chemical which could affect the safety of the products, health and even lives of consumers.

The Guide is useful also to the official inspectors because details problems and difficulties that require basic hygiene rules and food safety procedures in all phases of production activities specific to the bakery and confectioneries, with protective effect of life and health of consumers.

¹³ Published in Official Gazette, Part I no. 224 from 13/03/2006

¹⁴ <http://www.anamob.ro/ghidpat.shtml>

2.2.8.EcoWeb and Green Package¹⁵

EcoWeb is a project conducted by the National Environmental Protection Agency (NEPA) with the U.S. Embassy and Peace Corps Romania, which consists in an interactive website for scholars's education as far as waste .

Currently Ministry of Environment and Forest together with the Ministry of Education is working on the program called Green Package will introduce concrete measures to protect the environment in schools .

According to Minister of Environment, Laslo Borbely, the most important are not the books but actions that teachers do in school to demonstrate the importance of maintaining a clean environment.

3. Conclusion

Finally, it would be good to remember Albert Einstein words „We need a dramatically different way of thinking for humanity to survive.”. If humanity will not be aware of the devastating effect and the serious consequences that its behavior has on the environment, will not feel responsible and will not take measures will have to bear the disastrous consequences of the disappearance process of life and economic resources, a planet of hunger and unbearable.

Memorable remains in the memory of humankind M.K.Gandhi's words: „The planet produces enough resources to satisfy human needs but not enough to satisfy every man's greed. ”

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¹⁵ <http://www.mmediu.ro>