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STUDY CONSIDERING THE ENVIRONMENTAL PROTECTION AND LIFE QUALITY IN ROMANIA IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

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Abstract

The environmental protection represents an important subject in international debates, being accentuated by the alert rhythm of economic development and the higher demands of the current consumer generations. In general, it can be claimed that the most developed countries are producing the largest quantities of waste and pollutants and are consuming large quantities of energy and natural resources. The impact these countries have upon the natural environment is strong and destructive. Therefore, it can be remarked that the industrialization level is inversely proportional with the environmental state, which is getting worse by the year: reduced timbered areas, agricultural soil degradation, a thinner ozone layer, numerous extinct plant and animal species, accentuated greenhouse effect, etc. Affecting the natural environment has severe repercussions upon the quality of life, manifesting itself through water, soil and atmospheric pollution. These are the reasons why the authors of this paper are analysing, in the present study, the problems concerning the environmental protection and life quality.

Key words**:** *agriculture, analysis, animals, plants, products, western region*

INTRODUCTION

The environmental issues have long surpassed the local, regional and national dimension, becoming one of the most important wide range global strategies. Due to the impact upon the human and animal health and the mutations upon the natural and anthropic environment, the ample projects of development and rural improvement and the social and economical projects with a direct effect upon the ecosystem must be rigorously examined in order to fulfil the environmental standards. [1]

The quality of life is desired for both the generations living in present times and the future ones. The future generations have the right to a clean environment, and we are obliged to ensure this. This desideratum is stipulated in the statements of all grand summits that have been organized at a global level, as well as in Agenda 21, a document that represents a guide of conceptual implementation, univocally accepted, respectively the concept of durable development, which has been defined, developed and officially accepted at a global level in 1992, at the Rio de Janeiro summit. This document enhances the requirement of a capacity to satisfy the "needs" of the current generation, without compromising the chance future generations have to satisfy their own needs. [4]

The crucial element in the economic and social development of the European Union, including the priorities concerning its strategies and policies (PAC, The Cohesion Policy) is the European Council in Lisbon in March 2000 where the ***Lisbon Strategy*** was launched. [2]

Also known as the Lisbon Agenda, the Lisbon Strategy represents the plan of action adopted by the EU member states in 2000 aiming at turning European economy into "*the most dynamic and competitive economy in the world based on knowledge, capable of*

sustainable development, providing with more and better jobs, with a greater social cohesion and that respects the environment" by 2010. [10]

Through this strategy, they have identified *five key domains* in which applying reforms is necessary: *the society of knowledge*, *the domestic market*, *the business environment*, *the labour market* and *the protection of the environment*. [3]

The ***sustainable development strategy***, also known as the ***Göteborg Strategy***, is considered the "environmental dimension" of the Lisbon Strategy; its priorities are climate changes, transportation systems, public health and the responsible management of natural resources. [6]

The Sustainable Development Strategy (SDS) is a coherent strategy concerning the way in which the EU understands to contribute to the observance of the principle of sustainable development and it aims at identifying and acting in order to improve life quality continuously through the development of sustainable communities capable of managing and using effectively the available resources and to valorise the social and environmental potential thus ensuring prosperity, environmental protection, and social cohesion [9]. The ***three dimensions of sustainable development (economic, social, and environmental)*** started to develop as a new concept resulting in deep changes of the present way of living. They aim at making the three coordinates of sustainable development play a balanced role (with similar impacts) on the performance of the economic actors, with performance and profit having their sources in each of these domains.

The strategic directions of the SDS are:

-Controlling climate change;

-Ensuring sustainable transportation;

-Controlling the threats on public health such as chemical pollution, unsafety of foods, infectious diseases;

-Managing responsibly natural resources and stopping, as much as possible, the decline of biodiversity;

-Controlling poverty and social exclusion;

-Challenging population ageing.

The European Commission is developing, based on the contribution of the EU member states, a new Sustainable Development Strategy.

Romania has also developed, in 1997, its National Sustainable Development Strategy (NSDS) based on the document resulted from the world summit in ion (1992), a strategy that was revised in 2008. [8]

The National Sustainable Development Strategy (NSDS) reflects a coherent vision on the future of Romania in the following decades through the prism of the generous and realistic concept of sustainable development. Thus, short-, medium- and long-term strategic objectives are:

-Horizon 2013: Incorporating organically the principles and practices of sustainable development in the ensemble of public programmes and policies of Romania as a EU member state;

-Horizon 2020: Reaching the mean level indicated by the figures of 2006 of the EU-27 according to quality indices of sustainable development;

-Horizon 2030: Making Romania get as close as possible to the mean level of the year of the EU member states from the point of view of sustainable development indices.

The Main directions of the NSDS are:

-correlating rationally the development objectives, including investment programmes in the inter-sectorial and regional fields, with the potential and capacity of sustaining natural capital;

- modernising at a quick pace the systems of education and professional training, public health and social services taking into account the demographic development and their impact on the labour market;

-using widely the best existing technologies from an economic and ecologic point of view when making investment decisions;

- introducing eco-effectiveness criteria in all production and services activities;

-anticipating the effects of climate changes and developing a plan of measures for crisis situations generated by natural or man-made causes;

-ensuring food security and safety by valorising the comparative advantages of Romania without ignoring the exigencies concerning the maintenance of soil fertility, the conservation of biodiversity and the protection of the environment;
-identifying supplementary sources of financing for the achievement of great projects and programmes, particularly in the fields of infrastructure, energy, environmental protection, food safety, education, health, and social services;
- protecting and valorising the cultural and natural national heritage;
-connecting to the European norms and standards concerning life quality.

MATERIALS AND METHODS

The authors of the study consider that protecting the environmental frame and the landscape must comprise a series of components of the rural space conservation, from which the following are reminded:
The initiators, the designers and the executors of rural development and enhancement projects, the local authorities must ensure the rational and durable exploitation of local resources, such as forests, plantations, protection curtains, natural grasslands, waters, quarries;
Renovation projects of rural localities, constructions, palaces, castles and mansions and some elements of traditional techniques (wind and water mills, workshops and factories for archaic manufacturing of agricultural products) must add value to the local architecture, to conserve its specificity and to recreate some components of the traditional material culture, that, from various reasons, have suffered from degradation or destruction;
Protection programmes for water, natural parks and reservations of a local or national interest;
Programmes for depositing and recycling waste must be based on the principle according to which each area, locality or urban/rural region must carry responsibility for the waste, pollutants and pollution emissions they produce. **The rural areas must not be considered a place for dumping urban waste or recycling it.**
Developing entrepreneurial activities in rural areas and not only causes, many times, negative effects on the environment.
The phenomenon of occurrence of environmental damaging factors and of ecologic unbalances is called pollution.
The causes of environmental pollution are:
-Uncontrolled use of natural reserves;
-Storage of wastes in the environment;
-Production of new goods in which the pace of consumption and recycling is inferior to the occurrence pace;
-Rapid population growth, particularly in the two centuries;
-Intensification of industry, transportation, and agriculture in the last decades;
-Appearance of overpopulated areas.

1. Air as Environmental Factor

Air is continuously polluted particularly in areas close to industrial units that use old technologies and cannot rely on proper equipment of removing polluting emissions.

Table 1. Main pollutants in Romania and the EU (kg/inhabitant/year)

Pollutants (kg/inhabitant/year)	so_x	NOx	CO	CO_2	CH_4	N_2O	SOVM	NH_3	C
Specific emissions (Romania, 1994)	40	14	106	5.400	67	4,6	28	10	1472
Specific emissions (EU 12,1990)	36	37	137	8.822	61	3	38	12	2.300

Source: Report on Rural Development in Romania, vol. 2, 1998, PHARE Project

Overall, annual mean emissions in Romania per inhabitant are close to European means; in certain substances ($C0_2$), they are clearly below the mean of the EU countries. This is due to the reduction of economic activities after 1989 (the closing of industrial compounds and of animal farms) and to the introduction of non-polluting technologies.

2. Water as an Environmental Factor

They discharge annually, in watercourses, about 6.500.000 pollutants among which chlorides, organic substances, ammonia, suspensions, phenols, cyanides, sulphured hydroxide, detergents, and pesticides. The major pollutants are industrial wastes, used

waters, and wastes from animal farms, domestic used waters, etc.

The hydrographic basins with the longest "degraded" watercourses (compared to the total length of the watercourse) are Ialomiţa, Prahova affluents, Dâmbu), Prut (with Jijia, Bahlui), Mureş-Aranca (Arieş, Târnava Mică, Târnava Mare), Siret (Bârlad, Râmnicu Sărat), Someş (Sasar), and Olt (Cibin).

Hydrographic basins that include river segments whose water is 3rd grade quality are Olt, Prut, Siret, Argeş, Jiu, Bega-Timiş, Mureş-Aranca, Someş.

The global quality of the river Danube meets STAS 4706/1 quality standards due to the high levels of water flows that ensure proper dilution; there is, yet, a deterioration of the quality because of the discharge of considerable amounts of wastewaters both upstream (Baziaş), and along Romania's borders, through diffuse pollution by the affluents Olt, Argeş, Ialomiţa, Siret, Prut; discharge of wastewater that was not treated or that was improperly treated by economic units; wastewater discharged by a series of localities along the Danube (Drobeta-Turnu Severin, Brăila, Galaţi, Tulcea) that have no wastewater treatment facilities.

3. Soil as an Environmental Factor

The deterioration of the soil quality is constantly increasing because of erosion, acidification, alkalinisation, moisture excess, drought, marshing, salting, compacting, chemical pollution by pesticides, heavy metals, fluorides, and oil, that impact soil suitability for different cultures and their ecological function.

About 3,700,000 ha of the 9,500,000 ha of arable land meet sustainable and effective agriculture conditions.

The chemical pollution of the soil affects 900.000 ha of agricultural land and 300.000 of forestlands, and pollution by oil and salt water affects about 50.000 ha. Pollution by storage of wastes affects 11,090,000 ha. Salty lands represent 600.000 ha, land glides represent 700.000 ha, and soil compaction affects 6.500.000 ha. Periodical soil moisture affect 3.800.000 ha of agricultural land and 600.000 forestlands; drought is present on 7,100,000 ha of agricultural and 200.000 ha of forestlands. Other 320.000 ha are affected by excessive skeleton content in the upper layers and by drainage works.

The most important issue is soil erosion that affects about 700,000 ha of agricultural land with a tendency to expand and intensify. Wind soil erosion on 378,000 ha tends to extend because of deforestation and of lack of windbreaks in the areas most exposed to wind erosion (only 2,200,000 ha are protected by such windbreaks so far).

Degraded and combined lands because of industrial or otherwise activities are another important issue. Such lands can no longer be used unless proper treatments are applied. Contaminated lands are represented by any type of land that is so damaged because of the substances they contain that there is major risk of water pollution or of other hazardous phenomena.

Agricultural activities are another major cause of water pollution because of the improper waste management and of the use of fertilisers and pesticides. The most affected areas are ground waters. Contamination by nitrites of ground waters is a major environmental issue in Romania. Nitrite concentration can reach between 100 mg/l and 300 mg/l compared to the maximum admitted of 45-50 mg/l.

4. Forests as an Environmental Factor

In Romania, the forests covered, at the end of 2010, an area of 6,515,000 ha, i.e. 30,000 ha more than in 2007 (i.e., 0.5%).

Compared to 2009, the forestland area increased with 0.53%.

Table 2. Wood harvested per main tree species (cubic metres)

Wood species	2007	2008	2009	2010
Total wood harvested	**17,238**	**16,705**	**16,520**	**16,992**
Evergreens	7,491	6,766	6,635	6,895
Deciduous	5,182	5,208	5,489	5,651
Oak	1,485	1,653	1,403	1,526
different hard wood species	1,668	1,760	1,845	1,770
different soft wood species	1,412	1,318	1,148	1,150

Source: Statistical Brief, Romania in figures, 2011

In 2010, forest area was 6,354,000 ha, with evergreen species covering 1,941,000 ha

(i.e., 30.5%) and deciduous species covering 4,413,000 ha (i.e., 69.5%).
These points to an incipient process of degradation of the forests of Romania because of the deforestations that lead to erosion and aridisation of the hill and mountain slopes.
At present, Romania is considered, according to international criteria, a country with forests moderately affected by pollution.
The area covered with forests in Romania is larger than that of such countries as Albania, Bulgaria, The Czech Republic, Slovakia, Hungary, Austria, Denmark, Greece, Holland and Great Britain.
Forests, together with air, water and soil, are an important factor in environmental protection.
Thus, forests play not only an economic role, but a social role and a protective role also, i.e. they protect biodiversity, local and regional climate, waters, soil, and air. This is why forests are a relevant sub-criterion in the characterisation of the environment. The last years, there has been a constant process of degradation of the forests in Romania because of **massive deforestation** that caused erosion and aridisation of hill and mountain slopes.
Improving environmental quality in Romania largely depends on the increase of forest quality. Thus, we need to take measures to reforest degraded lands, to develop windbreaks in droughty areas and to manage forests properly.
The policy of the European Union in the field of the environmental protection aims at reaching sustainable development through the inclusion of environmental protection among sectorial community policies. Reaching this goal supposes the introduction of some high environmental standards and the observance of a few very important principles, such as:
- "the polluter pays";
- "the polluter is responsible for the damages produced";
- controlling pollution at the source and dividing responsibility among all economic operators at local, regional and national levels.
In Romania, awareness of environmental issues increased significantly and they have taken measures to control these issues after the participation in the Rio Summit in 1992.
Thus, at present, it is well known that the quality of the environment is an important component of economy since it is essential for the quality of the inhabitants' life.
To reach sustainable development, we need to see environmental protection as a component of the development process and not as an isolated element.

CONCLUSIONS

In the author's opinion, protecting the environment in rural areas cannot be resumed to a few principles and should not be handled only by NGOs and local or regional organizations. **The environmental protection must be integrated in a global ecological strategy that embraces a stable and unitary legislative frame, at a regional and European level.**
Protecting the environment, as a practical activity on the field, must start form a clear definition of the **environmental policies.** The basic elements of these policies must target the protection of soil, water, air, forests, plantations, farms and habitats, through the delimitation of areas in which the implementation of activities that affect the environment are limited or forbidden. Also, within these environmental policies, it is imposed a permanent and constant international problem, both in the legal domain and the domain of monitoring the environment and of practical co working actions in order to avoid, where it is needed, the limitations and stopping of the negative effects of pollution generating factors.

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