

Increasing Responsibility towards Environment

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Abstract. *In the international climate of the early millennium, the need for reconciliation between economic and social development, on one hand, and the environment, on the other hand, is essential. Therefore, sustainable development must be promoted, because it integrates economic growth, improves quality of life, health, education, social development and environmental protection.*

Environmental issues are particularly complex as their causes are interdependent. This requires actions at all levels: local, national, regional as well as at the European Union level, each with its own role in increasing responsibility for the environmental protection.

It is widely recognized that to obtain successful results an integrated approach has to be used to manage the environment, by adopting long-term strategies and action plans. It requires a detailed analysis of the links between different policies and responsibilities, including the links between different administrative levels.

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1. Contradictory effects of technology on the environment

Until recently, renewable natural resources were considered to be sufficient for the human needs. Nowadays, following the demographic growth and the unprecedented development of all areas of activity, the need of raw materials and energy for the production of goods grew more and the intensive exploitation of land resources reveals, more obviously, ecological imbalances.

Improving and upgrading technological processes by using the latest scientific achievements have greatly reduced specific consumption of raw materials, but not of energy. As a result of industrialization and production of goods development, the number and the quantity of materials affecting the environment have further increased.

1.1. Environmental pressure

More and more often, some raw materials, intermediary or processed products, some of them particularly complex, are found in air, water and soil (EEA, 2008). Acid rains are relatively common, determined by the presence of sulfur dioxide in the air, caused by thermal process development and use of inferior fuel. Discharged into the atmosphere, important amounts of nitrogen, carbon oxides and others substances produce adverse effects on vegetation, in general, and directly or indirectly on human beings.

Studies conducted by Blacksmith Institute show that 600 million people, mostly from developing countries, will die prematurely from exposure to industrial waste (Blacksmith Institute, 2009).

Mines, battery recycle centers or these for treatment of animal skin are often areas with extreme toxicity in developing countries. Chemicals found here cause retardation for children and cancer.

At the beginning of the millennium, the world is in ferment. Changes that have taken place will create, in an optimistic vision, hopes for remedy of the environment, albeit a gradual one.

Natural environment – i.e. air, water, soil and underground, life forms that those ecosystems create and support – is the most common image that the ordinary man has when talking about the environment.

However, today, the environment is a multidimensional reality that includes not only the natural environment, but also business and human creations. It is occupying a double position, namely: the “component” of the environment and the “consumer/ beneficiary” of it.

The current concept of environment is a dynamic one, which seeks to define, analyze and monitor the functioning of protected systems in all their complexity.

The natural resources mean all natural elements of the environment that can be used in human activity:

- Non-renewable resources – minerals and fossil fuels;
- Renewable resources – water, air, soil, flora, fauna;
- Permanent resources – solar, wind, geothermal and wave.

Any environment protection activity is aimed not only at the rational use of these resources, but equally the correlation of the territorial systematization with measures to protect natural factors; the adoption of less polluting production technologies; the equipment of technology installations and polluting transport means, with special devices, in order to prevent harmful effects on the environment; the recuperation and the best use of residual substances.

Most of the economic growth is based not on renewable sources of energy, but on fossil fuel energy: coal, oil, natural gas.

Residuals resulting from human activities have taken worrying proportions. Air pollution and water degradation damage to the ozone layer, desertification, toxic and radioactive waste – through their accumulation – all altered the quality of the environment. They generate imbalances in fauna and flora; they affect the health and life of human communities, especially in large urban agglomerations.

1.2. Environmental quality

Daedalus Consulting has developed in partnership with Green Report, the first quantitative research on environmental issues in Romania (Daedalus Consulting, 2008). The survey, published in February 2008, was conducted on a sample of 1,003 respondents.

As factors that heavily impact on the environment, Romanians identify air pollution (84.3%), deforestation (84.1%), genetically modified food (77.3%), industrial pollution, droughts and floods or thinning of the ozone layer (over 72%).

These are phenomena with direct consequences for everyday life, perceived as such by the subjects. Depletion of fossil fuels (55.7%) does not create great concern, since it is looked at as something that will happen rather far in the future.

Environment represents an essential element of human existence and is the result of the interference of natural elements – soil, air, water, climate, biosphere – with elements created by human activity. All of them interact, influencing the conditions and possibilities for future society development.

Any human activity and hence the existence of the individual is inconceivable outside the environment. Therefore, its overall quality and the quality of each component put their imprint on the human being.

The set of relationships and exchanges established between man and nature and their interdependence affects the ecological balance, the conditions for living and working, and the society development perspectives as a whole. These relationships cover both the business content of the activity and the creation for human existence conditions.

As a result, the environment must be adapted and organized to meet the needs of individuals, which means taking from the nature the kind of resources and their processing in order to serve the population. This dependence knows a highly reciprocal degree, because human needs are adapted greater or lesser to the environment.

Ensuring an appropriate environmental quality and its protection – as a need for survival and progress – is a matter of major concern for the social evolution. In this regard, the quality of environment must be preserved by reducing negative effects of human activity with its implications.

Pollution and drastic reduction of renewable material resources, far beyond the potential of their natural regeneration, have produced serious imbalances to the planetary ecosystem (EEA, 2006).

Thorough researches on environmental quality and efforts aimed at reducing sources of pollution have resulted in a series of actions and measures providing for:

- Comprehensive knowledge of the environment, and of the interaction between the economic and natural systems;
- Rational and efficient use of natural resources;
- Prevention of fight against environmental degradation caused by human and natural causes too;
- Harmonization of immediate and long-term interests of society as a whole or of the economical operators, concerning the use of environmental factors.

1.3. Environmental policies

Environmental policies have experienced two stages in their evolution (Călin, 2007). The first phase aimed at solving problems related to contamination of air, water, treating municipal solid waste and preserving natural areas, emphasizing the principle of polluter – paying, priority of corrective actions to the preventive ones.

The second phase of environmental policies began in the late '70s, bringing a new philosophy designed around the concept of sustainable development. Environmental policies are mainly anticipative, involving to a greater extent the civil society.

Moreover, it highlights the trends of globalization and integration into the social – economical policies. Thus, it tries to harmonize the economic time horizons with the biological, ecological time horizons, passing to a systemic approach to the economy and environment.

Integrating environmental policies into economic ones involves constraints and opportunities in both economic and environment policies.

Technological innovation has a crucial role in the integration of environment and economy. The extent of environmental problems suggests that technological progress will not be enough to deal with new challenges that governments will have to face. According to Eurobarometer published in March 2008, more than two thirds of Europeans prefer that the decisions on the environment policy to be taken at EU level (Eurobarometru, 2008).

According to the survey, Europeans are increasingly aware of the role that the environment plays in everyday life. More than 95% of Europeans believe that environmental protection is important. About 80% claim that the environment influences the quality of their life and assert that, through their own efforts, can contribute to its protection.

It also emerges that climate change tops the list of Europeans' environmental concerns, followed by pollution and man-made disasters.

The overwhelming majority of Europeans believe that EU should do more for the environment, and decisions concerning the environment should be taken at European level. They also find that the EU should harmonize the European legislation and help other countries to improve their environmental standards.

1.4. Environmental protection and economic growth

Environmental protection is a separate sector in the economy of human society, the concerns in this area covering any aspect of human activity (Klaver and others, 1999).

Current economic growth, fueled by scientific and technical progress, is destructive to the environment and brings increased risks of mankind. The relationship between economic growth and quality of life develops the idea that it is important to know what kind of growth should be promoted.

A strong economic growth leads to an increased pressure on the environment, with adverse effects caused by waste, emissions of pollutants, public space transformation.

Moreover, economic growth has positive effects: allowing the allocation of funds for the environmental policies implementation, accelerating technical progress and promoting the standard of living, comfort and education.

Often, measures of environmental protection cause contradictory effects – for instance, if the regulations in this area do not provide for companies reasonable time table to adopt them, the law is not respected. Once the procedures are clearly defined, firms gradually adjust their productive activities and the investments allocated to the environment may become an economic growth factor (Borzel, 2007).

To secure a balance, the intervention of the various actors involved is important: public power, industry, nongovernmental organizations, political parties, civil society.

Protecting the environment requires the identification of the mainly affected areas, the assessment of damage and of the causes which produced those imbalances.

As to how to protect, three categories of problems need to be solved:

- Creating appropriate and effective law and institutional system, to ensure compliance with applicable laws;
- Assessing the costs of environmental protection measures and identifying the sources of their financing;
- Developing long-term programs, linked nationally and internationally to environmental protection.

Concerning the costs assessment and how they are incurred, one may support the idea that environmental protection is costly and can not always identify pollution factors. Because of this situation, environmental protection costs are shared between potentially polluting companies and the state. Funds allocated to environmental protection vary from country to country, depending on their level of development.

Developing programs to protect the environment requires the identification of all the factors and areas where pollution problems may arise. Such kind of programs also requires assessing the costs necessary and the definition of the responsibilities for running the projects.

Environmental protection is a major problem of the last decade, discussed at world level, which gave rise to numerous disputes between the developed and developing countries. This called for the establishment of international organizations which have as main objective the adoption of solutions to mitigate pollution and increase environment quality in general (Duțu, 2008).

The European Commission has prepared a report on State aids in environmental protection, according to which they have doubled in the period 2001-2006, from 7 to 14 billion euros.

However, the data show large differences between Member States on environmental expenditure in relation to gross domestic product (GDP). Germany, Denmark and Sweden spent in 2004-2006 between 0.32% and 0.77%

of their GDP to environmental aid. In other countries, the percentages are much lower, for example, the United Kingdom – 0.06%, France – 0.01% and in Italy the percentage is almost zero.

Reducing pollution should be a goal to protect the environment. In this regard, efforts are made at national and local communities' level.

For example, one cause of light pollution is questionable quality of public lighting. Spherical lamps transmitting more light into the sky than to the earth are the largest source of pollution and wasted energy unnecessarily. Lighting becomes more efficient by using lamps directed towards the ground, which transmit the brightness for the purposes for which they were installed.

The country that has the most severe laws against light pollution is Slovenia. The state has established, inter alia, a target for street lighting energy consumption of 50 kilowatts/hour per year per capita, which means half of France consumption. The latter took the example of other countries and introduced in the field legislation stipulations on light pollution.

Lately, British people use less clothes dryers and more green bulbs. Also, they abandon cars more often in fear of global warming, says a recent online survey conducted by the organization Christian Aid (EEA, 2008).

The survey involving 2,127 adults says that 9 out of 10 have already taken steps to reduce carbon dioxide emissions, 75% of them have changed traditional light bulbs with green ones and 70% do not leave any electrical appliance in stand-by, 57% do not start electric heating systems if not necessary and 42% use driers less frequently. Lifestyle changes were extended to the transport chapter, so 36% often gives up the car and 19% fly less by plane.

Survey results show that 77% of British people believe the government should take more measures to reduce carbon dioxide emissions and take the lead in international negotiations on climate change.

2. Factors responsible for the environmental protection

The pressure of human activities on the natural environment increases very rapidly. It is accelerating industrial development, trade, movement of goods. Also, the space used for human activities is becoming wider. This development puts his imprint on the environment and its components, having an adversely effect.

Individual behavior pollutes to greater or less extent the environment, through daily activities or tourist consumption (Roberts, 2007).

The development of human activity affected all environmental components in different proportions. Of these elements, the most important are: landscape, soil, water, flora, fauna, monuments, parks, natural reserves and biosphere.

Therefore, the conservation of hygiene, sanitary, recreational and aesthetic functions of the natural environment components is a guarantee of continuous development of human society and it concerns both the authorities and all components of civil society at local, national, European and international level.

2.1. Involvement of the population

Most of the Romanian urban population has an environmentally friendly behavior and is favorable to renewable energy and for more than half of them, environmental issues are in second place after poverty.

Environmental campaigns are still early days in Romania. Specialists believe that adults can adapt quite difficult to the ecological constraints. Here after are some results of the first Green Barometer made in Romania by Terra Millennium III Foundation and Alma-Ro Association, with the support of the CEE Trust (Barometru Verde România, 2008). The study was conducted from June to August 2008 on a representative sample of 1,165 people, in all regions of the country.

88% of the respondents believe that not enough attention is paid at national level to environmental protection and most are dissatisfied with regard to green area of town where they live.

In addition, over 80% admit that their own behavior is a primary pollutant, followed by car pollution and industrial factors. With regard to measures that they are most willing to adopt, they mentioned reducing water consumption and electricity.

Reduced involvement of people in solving environmental problems, i. e. waste collection and recuperation programs can be explained by:

- Lack of a systematic mechanism for information about environmental preservation and environmental consequences of breaches;
- Poor coordination of waste management actions at local decision makers, where citizens have to be included;
- Scarcity of funds available to the authorities can reduce the organization of campaigns for environmental education of children and adults;
- Low involvement in decision-making diminishes opportunities for citizens to express themselves directly by promoting initiatives on environmental policies.

Young people (less than 35 years old) are those who think the least to ecology, shows the Study “Environmentalism in Romania” conducted online, in 2008. Almost 20% of urban respondents in this age group stated that they have not heard of any environmentalist action, and most of them are skeptical about the tangible results of these campaigns.

Respondents outside Bucharest mentioned that only 34% took part in last year to such an action. In the category of people aged over 35 years, more than 56% participated in the campaign of planting trees or collecting waste.

In the last few years, public opinion has become increasingly concerned about environmental issues. This is often reflected in consumer's behavior, standing who opt for products that are not harming the environment.

2.2. Involvement of business organizations

Partnership between population, business organizations and authorities should be supported for the common interest of maintaining the quality of environmental factors within the limits imposed by legislation, of protecting the environment and human health, of improving the economic status of the local community.

In this regard, the business organizations have a crucial role in product development and production technologies that minimize the amount of waste generated. Products should be designed so that their impact on the environment be minimized throughout their life cycle.

Such an approach that minimizes energy and materials losses is beneficial to the organization itself. In many companies, saving potential costs of waste is unknown, so each year significant amounts are lost.

The economic crisis led to a decrease in consumption, and thus the quantity of waste diminished by up to 10%, according to a report of the Institute for raw materials, Cyclope (CEE, 2008). From this point of view, it is considered that the major losers of the crisis are the waste recycling companies.

KPMG, the global network of professional services firms providing audit, tax and business advisory, issued in April 2008 a report entitled "Climate change changes your business", which examines the risks of climate change on business (KPMG, 2008).

The report, analyzes 18 industry sectors, grouped into three zones depending on the risks faced and the preventive actions that should be taken. If in the "danger zone" are six sectors, in the "average zone" there are nine: auto, building and real estate, insurance, construction and materials of construction's production, mining sectors, pharmaceutical sector, retail and utilities industries. In the "safe zone" there are three sectors: telecommunications, food and beverages and chemicals.

The amount of municipal waste increased by 500% in Great Britain compared with the 1960s and waste from fast food restaurants are in second place after cigarette butts found on the streets.

The survey highlights even more the already negative images of fast food restaurants, so long as Mc Donald's comes in the first place in the quantity of waste, the second being the local ones, the third is Gregg's pastry and the fourth is KFC, with 8%.

Greenpeace Romania launched, in November 2008, the energy efficiency campaign, "Green Hypermarkets' Guide" (Greenpeace România, 2008). This guide ranks hypermarkets according to the importance they attach to global warming and thus to reduce emissions of carbon dioxide (CO₂), by the policy they have to eliminate incandescent bulbs on the market.

At the request of Greenpeace Romania to eliminate incandescent light bulbs from the market, as quickly as possible, hypermarkets have responded differently. Ikea announced the elimination starting from early September 2009, Plus sets the deadline August 2010 and Auchan, Cora and Selgros Cash & Carry will only sell energy saving light bulbs from 2011.

The opposite is Metro, which said it will not remove from the market the incandescent bulbs until the adoption of legal provisions requiring this. Also, hypermarkets: Billa, Bricostore, Mr. Bricolage, Gima, Hornbach, La Fourmi, Mega Image, Penny XXL have not provided any official response to the repeated requests of the Greenpeace Romania.

Most companies are aware that a significant extension of legislation on the environment will have a major impact both on their own business and on life in general, especially in areas such as energy, agriculture, transport and tourism.

All these changes have led to an increased awareness of the responsibility of the organizations and management teams for their activities, which impact the environment.

2.3. Involvement of local authorities

In recent years, local government administrations have a growing interest in terms of urban modernization and its consequences on land use, transportation or the size of urban environment (Waddell, 2002). Connections between these areas, achieved through public plans and policies, facilitate a sustainable urban development.

Unfortunately, the analytical methods so far available do not raise to the level of desire for a coherent development. Neither enable they substantiated decisions and anticipate the possible negative consequences of political or infrastructure initiatives.

Many local communities are facing problems such as pollution, agglomerations in traffic, higher consumption of resources, and reduction of green areas. Public institutions, through urban planning agencies and citizens, take contact with these issues as they develop and evaluate alternatives to address them.

Local authorities have a key role in improving the environment. Diversity in terms of history, geography, climate and the administrative and legislative conditions are leading to the adoption of locally developed solutions, depending on specific conditions.

Applying the principle of subsidiary, which stipulates that action is to be taken at the most appropriate level, involves also a very intense local activity.

Thus, representatives of local authorities have responsibilities in the adoption of effective waste management plans, as well as stimulating partnerships with industry and business, and with citizens, to find solutions to minimize the amount of waste generated, facilitating their recycling.

To achieve these goals, local authorities have at hand a number of ways:

- Initiate information campaigns through mass-media (publications of the town hall, newspaper, radio and TV stations);
- Encourage the creation of organization forms of civil society that can take part in different activities to educate the citizens;
- Organizing seminars and exhibitions with information dealing with waste;
- Publication of leaflets, posters with practical advice related to the toxic household waste neutralization;
- Filling in of questionnaires on the implementation of waste management and its dissemination through local waste management companies;
- Organizing a system of payment by undertakings providing services organizations to stimulate citizens to sort the waste;
- Implementation of measures for awareness and attract children and young people in recycling activities;
- Support competition type action on environmental issues for children, students, youth, and adults;
- Attracting sponsors, especially among polluting enterprises;
- Organization in the city halls of waste management information centers.

2.4. Involvement of NGOs

Soros Educational Center conducted in November 2008, a national assessment of environmental NGOs (ONGM) in Romania (Centrul Educațional Soros, 2009). The survey shows that most of them have difficulty in communicating with the press and with government's institutions and that their big problem is the lack of funds. But things were going better at local level, where interaction and communication to the other social actors are more common.

The study also shows that 90% of ONGM's claim that their actions have the main beneficiaries young people and children.

In its first report, Recolamp association, established in September 2007, shows that Romanians have recycled around 160 tones of bulbs in 2008 (Recolamp, 2008). Recolamp was established by Philips Romania, Osram Romania, GE Hungary ZRT and Narva LLC. Nowadays, this non-profit association numbers over 100 members and has as main activity the collection and recycling, waste from used light sources in safe conditions for the environment and human health.

The association has been designated by the National Ministry of Environment to manage this waste stream and therefore has set up collection points and imposed Green Stamp usage – the fee for waste collection.

For 2008, Recolamp Green Stamp set that the value to energy saving light bulbs and fluorescent tubes is 0.9 lei (0.21 million), plus VAT. Romania is below the European average of 0.26 euros, well below countries such as Ireland, Latvia and Greece, where it can exceed 0.4 euros, but is above in countries like Sweden and Germany, which reached values from 0.08 to 0.1 euros. In 2008, the 100 companies participating in the scheme administered by Recolamp reported that 11 million units put on the market charged for the Green Stamp more than 9.6 million lei (2.28 million euros).

But, due to the financial crisis, invoices received totaled only 5.39 million lei (1.27 million euros). In 2008, the system Recolamp collected 160.58 tons of waste that is recycled by hand in Romania and in Germany by specialized companies. For 2009, Recolamp plans to extend the collection infrastructure expansion, from 1,000 to 2,000 collection points. Investment will continue given that spending in 2008 to recycle used light sources amounted to 1.4 million euros.

Lighting sources waste collection is part of European policies to reduce the costs and saving energy resources, but also protecting the environment. For example, scientists have calculated that Europe could make annual savings of seven billion euros if it had used 50% more energy saving light bulbs – which have a lower consumption and a higher life time duration.

2.5. European Union involvement

Today, waste production can no longer be considered one of the indicators that reflect the consumption and welfare, but shows progress of a society, how effective is it in relation to natural resource consumption and waste treatment operations. Our production-consumption model must be adapted to the requirement of minimizing the pressure on the environment.

Legislation plays an important role in pollution control (Duțu, 2008). However, current law focuses mainly on regular spread of pollution, than on the causes leading it. In the EU, environmental legislation is becoming denser, and where there is danger that the situation becomes critical, the constraints are very high.

EU legislation is one of the most penetrating actions on environmental control, probably as a result of several factors: a strong political lobby, especially in countries such as Germany, an academic thinking in the environmental field in countries like Sweden and the Netherlands and the pressure of international bodies such as Greenpeace. The idea of using environmental management systems (EMS) is sustainable in terms of EU policy. The fifth Action Program for the reorganization law could not solve all environmental problems. This Program includes basic market tools and bilateral agreements – EMS, eco-audits and eco-characterization fits in this category.

Market based instruments are intended for internal analysis of environmental costs. The need for responsible use of scarce resources must be demonstrated by consumers and producers. Pollution and losses also need to be reduced. EMS sites the market economy factors in environmental field through promotional competition between industrial activities.

The assumption is that the market will reward the organizations that use EMS, resulting a pressure that will encourage other companies to follow the example. Overall result could materialize in several organizations that will become active in improving environmental performance.

EMS adopts the principle of the polluter payment and the prevention that are part of EU environmental policy by placing responsibility on business and using a proactive approach, as opposed to a reactive one.

Standard environmental management system refers to the basic market mechanisms, which aim to improve the performance of organizations.

The structure to achieve EMS aims quality management systems (QMS) which is mainly based on providing finished product quality, while environmental management systems have not in view the finished product.

The main goals of the environmental management systems are:

- Promoting activities that can have a significant impact on the environment;
- Continuing improvement of environmental management processes;
- Assuring awareness of environmental pressures on business.

Many companies are facing difficulties; the financial ones are clearly a relevant feature in the business environment. However, environmental pressures have significantly increased both locally and internationally field.

Conclusions

New environmental policies propose an integrated approach that contributes to a higher quality of life and social well being of citizens, by providing an environment where pollution levels do not generate harmful effects on human health and the environment.

Integrated approaches to environmental protection lead to better planning and significant results.

Solutions must be future-oriented, incorporating aspects of risk prevention, and anticipation of climate change (e.g. increased flood hazard) or gradual reduction of dependence on fossil fuels. Local initiatives to solve problems can generate new problems in another area and may be in conflict with national or regional policies.

The obligations imposed on local, regional, national or European level (e.g. efficient use of land, reduced noise, increased air quality) can be fulfilled more effectively at local level when integrated in a local strategic management.

Defining clear objectives and targets, responsibilities and procedures for monitoring progress, public consultation, checking results, auditing and reporting is crucial for effective implementation measures of environment protection.

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