

# Some Aspects of the Sustainable Development in Romania

Burja C., and Burja V.

**Abstract**—The paper presents the Romanian realities and perspectives from the point of view of reaching the sustainable development model in the context of the recent accession to the European Union, based on the analysis of the indicators listed in the EU Sustainable Development Strategy. The analysis of the economic-social potential for sustainable development and of the environment aspects show that the objectives stipulated in the renewed EU Sustainable Development Strategy of 2006 can be reached, but an extra effort must be put-in in order to overcome the existing substantial gaps in several areas in relation to the developed countries of the EU. The paper's conclusions show that even if sustainable development is not an easy target to reach in Romania, there are resources and a growing potential, which can lead to sustainable development if used rationally.

**Keywords**—Ecological dimension, economic-social potential, strategy, sustainable development.

## I. INTRODUCTION

THE preoccupations regarding the sustainable development necessity at worldwide and European levels have a relatively recent history. Their beginning was marked by the Brutland Report (1972), which directed the public opinion's attention and the decision-making, organizational and institutional factors' attention towards the multiple interdependences of the economic activities and the negative implications generated for the environment and for the population's health.

Sustainable development has become for the European Union a political objective in 1997, by including it in the Maastricht Treaty. The Lisbon Strategy (2000) has drawn the objectives through which a general growth of all the member states' competitiveness can be reached, but must be accompanied by a sustainable development [6]. In 2001, the European Council from Goteborg passed the EU Sustainable Development Strategy, to which was added an external dimension at Barcelona in 2002. This strategy was subsequently revised and the EU Council adopted in 2006 the renewed Sustainable Development Strategy for an extended Europe. Its general objective is the quality of life's continuous improvement for the present and future generations by

creating sustainable communities, capable to manage and use the resources in an efficient manner and to capitalize the innovation potential in order to ensure economic prosperity, environmental protection and social cohesion.

Preoccupations regarding the economic development impact over the environment have existed in Romania since the 1970's - 1980's, especially in the academic circles, but the political and executive decisions, the legislative documents and the actual measures and actions were taken only after the year 1990.

Romania was the first European country that ratified the Kyoto protocol in 2001, making a commitment to support sustainable development and to contribute to limiting the climatic changes.

The First Romanian National Sustainable Development Strategy was written between 1997 and 1999, with assistance from the United Nations Development Programme (UNDP).

The Romania – EU Treaty of Accession (2005) and other programmatic documents adopted in the pre-accession period include Romania's concrete commitments to put into practice the Community acquis, including the sustainable development principles.

As a result of the assumed obligations as an EU member, the Romanian Government has elaborated and adopted in November 2008 the National Sustainable Development Strategy with the 2013-2020-2030 horizons, which sets concrete objectives for implementation in a reasonable and realistic timeframe for the sustainable development model, generates a high value added, is based on knowledge and innovation and is orientated towards the continuous improvement of the quality of life in harmony with the natural environment. The document addresses the following strategic objectives [16]:

The 2013 horizon: To incorporate the principles and practices of sustainable development in all the programmes and public policies of Romania of an EU Member State.

The 2020 horizon: To reach the current average level of the EU countries for the main indicators of sustainable development.

The 2030 horizon: To get significantly close to the average performance of the EU Member States in that year in terms of sustainable development indicators.

By realizing these objectives, Romania will put into practice the EU sustainable development policy, ensuring high economic growth that will contribute to reducing the economic-social disparities compared to the other Community

Burja C. is with the "1 Decembrie 1918" Alba Iulia University, 510009 Alba Iulia, Romania (phone: 0040258-806263; fax: 0040258-806263; e-mail: cameliaburj@yahoo.com).

Burja V. is with "1 Decembrie 1918" Alba Iulia University, 510009 Alba Iulia, Romania (e-mail: vasileburja@yahoo.com).

States. The monitoring process based on the comparative analysis of some indicators, which express the present state and the future actions, becomes necessary.

## II. SUSTAINABLE DEVELOPMENT INDICATORS

Monitoring the sustainable development requires the existence of indicators that measure this process. Drawing up an indicators system implied a complex and long-term effort, its improvement being continuous because of the difficulties to notice and quantify the real impact that human action has over the economy, the society and the natural capital in time.

The sustainable development had initially targeted the impact of the economic activity over the natural environment, that's why the collaboration of some European institutions (Eurostat, European Environment Agency, speciality directorates of the European Commission, etc.) lead to the affirmation of some indicators included normative documents, sector environment policies, monitoring and reporting mechanisms, such as: REACH, TERM, IRENA, BIO-IMPS.

The EU's new chemicals policy, know as REACH (Registration, Evaluation and Authorisation of Chemicals) evaluates the effects caused by the use of chemical substances on the human health and the natural environment [5, 15]. The IRENA operation (Indicator Reporting on the Integration of Environmental Concerns into Agriculture Policy) responds to the monitoring and evaluating demands of integrating the environment problems within the Common Agricultural Policy [2], with the of TERM (Transport and Environment Reporting Mechanism) is monitored the environment performance of the transport sector in the EEA Member States, and BIO-IMPS (Biodiversity Implementation Indicators) are among the best tools to assess and inform about the progress registered in preserving the bio-diversity.

A relevant indicator for an economy's sustainability is the Green GDP indicator, which is identified as being the gross domestic product whose value is adjusted depending on the consumption level of the resources and on the damages caused to the environment. Another possibility is to use a small group of indicators focused on the sustainable development's key domains for a country or region, which expresses national wealth (resulted from the good management of the environmental resources, of the economic and social factors) [11].

At the European Union's level there have been many initiatives to build indicators systems, which were used to assess the stage of the Sustainable Development Strategy's implementation. The UN Commission on Sustainable Development and OECD indicators, the Structural Indicators, the Laeken indicators, indicators monitoring the Cardiff integration process (agriculture, energy, transport), and the core set of indicators of the European Environment Agency have subsequently been at the base of setting the general framework for the indicators of the European Commission tied to implementing sustainable development [1, 11].

The present system of the sustainable development indicators, developed by the European Commission in collaboration with its specialized institutions is considered adequate for monitoring the quantitative targets of the EU Strategy and appreciating the implementation efforts of the objectives on each strategic dimension, but is incomplete or insufficient to trace and evaluate the qualitative objectives. Eurostat used these indicators in 2007 for drawing up the first Monitoring Report for EU Sustainable Development Strategy [7]. They have a pyramid structure build on three levels: Lead objectives (Level 1), Priority objectives (Level 2) and Actions/Explanatory variables (Level 3). At the base of the pyramid, a supplementary set of indicators (context indicators) is included to reflect phenomena that do not easily allow for normative interpretation or that cannot be gauged in terms of expected response to intervention.

The information offered by Eurostat form a complex database regarding a large number of indicators for sustainable development. With a unitary calculus method, they instate a homogenous character to the data for all 27 EU countries, which allows the comparative monitoring and assessment of the sustainable degree of various national economies, as well as the statement towards the average level of the sustainable development stage recorded at the level of the European Union.

At the same time, the EU Member States have recorded preoccupations to implement some evaluation indicators for the sustainability of their own national economies, which will ensure a support in monitoring the qualitative aspects of the sustainable development.

For the continual measuring and evaluation of the stage and the recorded results on the line of implementing the sustainable development's strategic objectives, Romania has done a methodological clarification and institutional organization, which allowed the elaboration of national indicators compatible with the European system's sustainable development indicators used to monitor, evaluate and coordinate the progress registered by each EU Member State. Thus, a Sustainable Development Indicator System was created in Romania. The indicators were structured in accordance to the architecture proposed by Eurostat and include a series of data available in the national statistic system beginning with the year 2000. Their role is to ensure the assessment of the economic performances and the social and ecological responsibilities of the national economy's growth.

These indicators form a database that will serve to the evaluation and analysis of the compliance level with Romania's sustainable development's strategic objectives in comparison to other EU Member States and it will also serve to the incorporated monitoring of the development's quality in the European region.

An important role in elaborating and perfecting this set of indicators belongs to the Romanian National Institute of Statistics, which collaborates with the Eurostat – UNECE -

OCDE working- group for the development and permanent updating of the indicators.

### III. RESULTS AND DISCUSSIONS

In the pre and post-accession period, Romania has adopted a series of political decisions and normative documents, which stipulate measures for the implementation of the sustainable development problem that has become the object of strategies and action programs at national level. These documents include evaluations of the present economic-social situation and of the public policies, which show the great efforts put into achieving the objectives of the EU Sustainable Development Strategy.

Romania is the seventh state of the EU regarding the size of the population and it disposes of an important economic potential and natural capital. If capitalized efficiently, in accordance with the sustainable development's principles, they can ensure an economic growth adequate to the dissolution of the present disparities towards developed countries.

The information in the Eurostat database was used in order to ensure data compatibility for making comparisons with the stage of the sustainable development in the EU.

The *evaluation of the economic-social potential* for Romania's sustainable development was done with the help of the sustainable development's main indicators, present in the dynamic and comparative to the EU average (Table I).

TABLE I  
THE SUSTAINABLE DEVELOPMENT'S ECONOMIC-SOCIAL INDICATORS

Indicators	Romania 2000	Romania 2007	EU-27 2007	EU-15 2007
Growth rate of real GDP/inhabitant, %	2.3	6.6	2.5	2.1
Total investment, % of GDP	18.9	30.4	21.3	21.0
Total RD expenditure, % of GDP	0.37	0.54	1.83	1.91
Turnover from innovation, % of total turnover	-	36.6***	-	-
Energy intensity of the economy, kgoe/1000 euro	1459.79	1128.01*	202.45*	179.54*
Total employment rate, %	63.0	58.8	65.4	67.0
Unemployment rate, %	7.3	6.4	7.1	7.0
At risk of poverty rate after social transfers, %	-	19*	-	16*
People living in jobless households, by age group, %	8.1	10.0	9.4	9.2
Public expenditure on education, % of GDP	2.88	3.48**	5.05**	-
Household expenditure per inhabitant, 1995=100	100.0	183.0*	109.5*	107.3*
Employment rate of older workers, %	49.5	41.4	44.7	46.5
Life expectancy at age 65	13.4	13.3***	16.4**	*

Death rate due to chronic diseases, per 100 000 persons	255.3	233.6*	126.5*	107.8*
Urban population exposure to air pollution by particulate matter, micrograms/m <sup>3</sup>	-	52.2*	30.0*	-
Urban population exposure air pollution by ozone micrograms/m <sup>3</sup> day	-	2054.0*	4417.0*	-

Source: Eurostat

\* year 2006

\*\* year 2005, \*\*\* year 2004

According to the indicators in the chart, Romania has a high economic growing potential. Romania recorded a strong dynamic of the gross domestic product/inhabitant. In 2007, the Growth rate of real GDP/inhabitant reached 6.6% and is three times higher than the EU average. Nevertheless, according to the previsions of the European Commission, in 2008 the GDP/inhabitant in Romania is among the lowest in the European Union and represents approximately 44.3% from the EU-27 average.

This favourable situation is the direct result of the political options which considered as a main objective the investments' stimulation in order to create, develop or reorganize the infrastructure of society, especially in the public sector, as well as the actual situation of the production factors' market, relatively cheap, which attracted private internal and external investments flows. The total investments volume had a growth of 60% in 2007 in comparison to the year 2000, and is 33% higher than the EU-27 average, measured as percents of GDP.

A qualitative analysis of the economic growing potential implies studying the innovation, competitiveness and eco-efficiency indicators. They show that although Romania has a high economic growth, it is not owed to the efficiency's and productivity's improvement, but it is rather owed to the large consumption of resources. The energy intensity of the economy has dropped 22.7% (the year 2007 compared to 2000), but it still is 5.6 times higher than the EU-27 average and over 6 times higher than the EU-15, which shows a low efficiency of the economic activities that supply products and services with the involvement of energy flows that were above the European average.

Romania has a low weight for research-development expenses in the gross domestic product (0.54% in the year 2007) and although it has risen in comparison to the year 2000, the indicator is 3.4 times lower than the same indicator for the EU-27 ensemble and almost 4 times lower in comparison to EU-15.

An economy's competitiveness is ensured by its innovation potential, materialized in the significant improvement of the goods and services introduced on the market or of the production processes, which leads to manufacturing new products with better performances in conditions of high economic efficiency. Actually, the relationship between the intensity of competition and innovation follows an inverted U-shaped curve [10]. In 2004, Romania recorded the highest weight of the turnover obtained from innovation (36.6% of the total turnover), surpassing all the other EU Member States

because of the implemented investments, but also because the research activity was directed towards creating new products.

Qualitative differences occur also in the social field; the total employment rate is lower than the rate in the EU-27 and is way below the target of 70% set in the Lisbon Strategy for the European Union in its entirety for the year 2010. This aspect can be explained by the large number of Romanian citizens who work temporally abroad (about 2 million people in 2008), as well as by the dropping age for retirement. In Romania, a positive aspect is the unemployment rate, which is lower than the EU average.

The population's poverty rate is higher in Romania than in other European countries, just as the indicator at risk of poverty rate after social transfers shows, which highlights the higher weight (with 3%) of the persons who are at risk to reach below the limit threshold of an acceptable standard of living (19% in 2006) in comparison to the European Union (16%).

A major gap was recorded for the public expenses directed towards education. The public expenditure weight on education of GDP in the year 2005 was 3.48%, compared to 5.05% of GDP allotted for education in the same year by the EU-27. Admitting that investments in education ensure the general education and professional quality of the work force and it ensures the growth of its creation, innovation and efficiency capacity, the weight of the public expenditure on education of GDP had risen to 5.2% in 2007 and the present Governing programme puts into practice the Education Law, which stipulates for the 2009 – 2012 period a 6% of the GDP for education.

Indicators regarding demographic changes, social inclusion and the health condition of the population also show differences. The employment rate of the elderly is lower in Romania with approximately 3.3% than the EU-27 average and with 5.1% lower than the developed European Union countries.

Life expectancy at age 65 in Romania is 13.3 years (for men), lower with 3 years in comparison to the results registered in 2004 in EU-27. This indicator reflects improvements in living conditions, especially in terms of wealth, housing, nutrition and health care.

Although the death rate due to chronic diseases – per 100 000 persons has dropped in Romania in the year 2006 compared to 2000, it still maintains a level twice as high than the EU-15 average, which reflects the poor infrastructure of the health system, medical personnel with insufficient studies, combination of persistent socio-economic and environmental problems, with additional pressures from deficient nutrition and stress.

Regarding the influence of the different pollution forms over the population's health, a high level of pollution with material particles in crowded places can be noticed (the concentration is almost double in Romania in comparison to the EU-27), but, in return, people are less subjected to ozone pollution.

The other economic-social indicators present in the Eurostat database don't show noticeable differences in Romania in comparison to the situation characteristic for the European Union or can't be analyzed due to the lack of necessary data.

The analyzed scene shows that Romania disposes of an economic-social potential for reaching the objectives stipulated in the renewed EU Sustainable Development Strategy of 2006, but must put-in extra effort in order to overcome the existing substantial gaps in several areas towards the EU developed countries.

*The analysis of the environmental dimension* for sustainable development can be conducted with the help of a complex group of indicators systematized on various criteria.

The International Institute for Sustainable Development has suggested since 1999 a set of indicators for monitoring the environment aspects and they were called Green Headline Indicators. These indicators represent an initiative of the Swedish Environmental Advisory Council and they were used to assess the progresses made by the Swedish economy in the transition towards an ecological sustainable society [17].

Green Headline Indicators (counting 12) allow identifying the fields, which relate with the natural environment, such as the fundamental causes of environmental degradation, polluting emissions and the necessary practices, reflecting at the same time the shifts in society from the environmental perspective.

The present system of the measuring indicators for the ecological component from the EU Sustainable Development Strategy includes a large number of environmental indicators, among which we can find the Green Headline Indicators. They are integrated in independent themes (climatic changes, sustainable transport, natural resources) or in sub-themes, which allow identifying the environmental aspects within the themes regarding the other aspects of sustainable development.

TABLE II  
ENVIRONMENTAL INDICATORS FOR SUSTAINABLE DEVELOPMENT

Indicators	Romania 2000	Romania 2007	EU-27 2007	EU-15 2007
Final energy consumption by sector, 1000 toe	22466	24706*	1176298*	100691*
Electricity generated from renewable sources, % of gross energy consumption	28.8	31.4*	14.6*	15.3*
Combined heat and power generation, % of gross electricity generation	-	18.0*	10.9*	10.1*
Volume of freight transport, Index 2000 = 100	100.0	166.0	107.1	101.4
Freight transport by road, % in total inland freight, tonne-km	42.9	71.3	76.9	78.7
Passenger transport by car, % in total inland passenger-km	69.9	74**	83.4**	84.4**
Municipal waste generated, kg per capita	363	379	522	562
Municipal waste landfilled, kg per capita	302	284	212	193
Livestock density index, livestock units/ha	-	0.47**	0.80**	0.88**
Emissions of acidifying substances, 1000 to acid eq	32.47	45.78*	727.42*	521.32*
Emissions of ozone precursors, 000 to ozone forming potential	786	926*	26655*	20954*

Emissions of particulate matter, 1000 to	684.26	926.91*	18978.05	13972*
Greenhouse gas emissions, index base year=100	49.9	56.3*	92.3*	97.3*
Emissions of particulate matter from transport, 1000 to	78	90*	4283*	3533*
CO <sub>2</sub> emissions, to/ inhabitant	4.3	5.1*	8.6*	8.9*
Organisations with a registered EMS, number	-	1	3908	2842

Source: Eurostat

\* year 2006

\*\* year 2005, \*\*\* year 2004

The main indicators that define the environmental dimension of sustainable development for Romania, compared to the existent situation in the EU, are presented in table II.

The indicators showed in the table allow the monitoring of some factors that act over the environment from the point of view of its degradation, caused by the unfolding of human activity, as well as the actions undertaken for the preservation and sustainable management of the natural resources.

The new energy policy of the European Union that was launched in 2007 claims that the energy is an essential element of sustainable development because of the impact it has over climatic changes and globalization, and, in a new sustainable energy economy, it becomes a key factor for prosperity and economic-social growth [14]. We can see that in Romania, the final energy consumption by a sector has risen in the year 2006 with 10% in comparison with the year 2000, because of the growing activities in the industries and transport.

Romania must promote policies to increase the energetic efficiency, in parallel with increasing the weight of the energy obtained from renewed sources, in order to ensure energy independence on the principles of sustainable development. The electricity generated from renewable sources has grown from 28.8% in the year 2000 to 31.4% in the year 2008 and is placed at a double level than the one recorded in the EU. At the same time, combined heat and power generation holds 18% of the gross electricity generation, but many energy production units work at low capacity, have an outdated technical level and an expired lifetime.

Transports are a field with priority for sustainable development because of its interdependence with the other branches of the national economy, the value of its services for the population and its considerable impact on the environment.

Monitoring the evolution of transports in Romania shows a growth in the transportation of goods with 66% in the year 2007 in comparison to the year 2000, while at the EU-27 and the EU-15 levels, the growing rhythm was much faster and recorded a growing rate of 107.1% for the EU-27 and 101.4% for EU-15. The biggest increase was registered for freight transport by road, which reached 71.3% from 42.9% in total inland passenger-km, getting closer to the figures recorded in the EU. In the same timeframe, the weight of the passenger transport by car also grew, from 69.9% to 74% in total inland passenger-km. This evolution of transports and the precarious

condition of road infrastructure, leads to excessive fuel consumption and generating nefarious effects on the environment.

The municipal indicator waste generated-kg per capita can reflect the economic development level of a country. Although, the statistic data show that in Romania the quantity of municipal waste-kg per capita has increased in the year 2008 in comparison to 2000, it is still below the EU average, and represented about 72% of the EU quantity in the year 2007 and 67% of the EU-15 quantity. But, the accurate management of waste products is a problem that Romania is confronted with and has an important impact on the environment. The majority of municipal waste generated in Romania is deposited (approximately 75% in the year 2007), while the depositing percent in the other EU Member States is much lower (40% in EU-27 and 34% in EU-15). Only 2% of these waste products are recycled [13] and their chemical treatment doesn't exist in Romania.

Another indicator, which reflects the pressure exercised by the human activity over the environment, is represented by the livestock density index, expressed in livestock units/ha. Although, the indicator's level for Romania in the year 2005 (0.47) is way below the EU average (0.80 for EU-27 and 0.88 for EU-15), negative aspects are recorded because the majority of individual households often do not hold sealed collection pits for animal effluents allowing the nutrients, and especially nitrates, to dissolve into the ground water. Even if larger farms and farming operators have manure and liquid animal waste storage facilities, most of the existing wastewater treatment facilities require rehabilitation and refurbishment; old and inadequate facilities for animal waste disposal also require rehabilitation or refurbishment and the addition of handling and management facilities for natural organic fertilisers, in line with legal requirements [13].

For the time being, the concerns tied to introducing organic agriculture practices are not present in the information supplied in the Eurostat for Romania. The positive trends recorded by the EU (in the EU-15, the area under organic farming has grown from 3% in the year 2000 to 4.3% in 2005) are also confirmed in Romania. For the 2000-2007 period, the information supplied by the Agriculture Ministry show a rise of over 11 times for the areas where green agriculture is practiced and an increase of the green vegetal areas of over 12 times. Compared to the total size of the agricultural area and the agricultural potential the country has, the actual size of these indicators is low [12]. It is estimated that the green agricultural areas will reach 400000 ha in the year 2010, which means an increase of 23 times of the total area in comparison to the year 2000, when the legal and institutional framework regarding the organic production in Romania were created [4].

By signing the Kyoto Protocol, Romania has committed to support sustainable development and to contribute to limiting climatic changes. Our country adopted the general principles of the European Union's energy policy, so that the target is to

reduce greenhouse gases emissions with 8% in the 2008 - 2012 timeframe in comparison to the year 1990.

Although in the 1990-1999 timeframe the GHG emissions dropped with 57%, surpassing the Kyoto objective, this wasn't the result of applying favourable environmental measures; it was the result of a drop in the activities of industrial sectors that entered in a reorganization processes (ferrous metallurgy, the minerals industry, the ceramics industry, cellulose and paper industry, etc.). The following period, the pronounced economic development (the annual growing rate for GDP/inhabitant was 8.8% in the year 2008) generated an increase in the energy consumption for sustaining industry production, which resulted in a slight increase of polluting gases. Thus, in the analyzed period, the most significant growth was recorded for emissions of acid substances, which grew with 40%. The other gases emissions had a lower increase: carbon dioxide 19%, ozone emissions 18%, material particles emissions 35%, and the emissions resulted from transports had a 15% increase.

The growing trend for polluting gases, especially acid substances emissions and material particles emissions indicate the highlighting of some forms with negative impact on the environment, such as acidification, a drop in biological diversity, a drop of the air quality in cities, etc.

Nevertheless, the emissions levels in the past years for the majority of pollutants are well below the EU average. Compared to EU-27, which recorded a drop in its emissions level with 7.7% in comparison to the year 1990 and the EU-15 with 2.7%, Romania reduced its GHG emissions with 43.7%, especially as a result of the adjustments made in the industry sector.

The European Environment Agency Report shows the status of carrying out the planned measures and the progresses recorded for the assumed objectives within the Kyoto Protocol. For Romania, within the protocol is identified the existence of national measures and policies for the reduction of gas emissions, whose effect can be found in diminishing the GHG volume under the Kyoto target (the year 2006), so that a fulfilment of the assumed objectives is foreseen for the year 2010 [3].

Implementing the International Standard for Environmental Management System (ISO 1401) in Romania is at the beginning. Only one organization had implemented an environmental management system Eco-Management and Audit Scheme (EMAS) in the year 2007, in comparison to 3908 organization at the EU-27 level.

#### IV. CONCLUSION

Sustainable development is a common objective and a permanent preoccupation of the EU Member States. Romania, as an EU member, has adopted this objective since the pre-accession period and is presently implementing the National Sustainable Development Strategy with 2013-2020-2030 horizons, which sets the main action directions in order to reach the stipulated objectives.

The sustainable development is not an easy target for Romania, because it must make up for the gaps towards the other EU members through a sustained economic growth, or the economic growth is often accompanied by the increase in the volume of used resources, a situation which can be in contradiction with the principles of sustainable development. That is why the economic effort must achieve a continuous growth by obeying the sustainability principles.

The economic resources, the legal framework, the political options and achievements accomplished by Romania, through the harmonization of the sector policies to the environment policy of the European Union, show that in the past years the practices specific to sustainable development have extended, so that now real chances of a growing economic competitiveness on sustainable principles exist. In this manner, Romania joins the efforts of the member states in order to make the European Union the most dynamic and competitive economy in the world.

Monitoring the stage in which Romania can be found from the point of view of obeying the sustainable development principles and reaching the objectives stipulated in the Strategy needs a sensible indicators system, which is relevant for the measurement of the economic, social and environmental dimensions of the traced process.

A relatively high number of individual indicators for sustainable development create a vast information scene, difficult to trace in order to assess the national progresses for the management of the natural resources, the diminishing of the damages caused to the environment on different impact categories, the economic growth and the social welfare. Simplifying the analysis and decision-making processes needs a more synthetic expression of the indicators, so that the elaboration of an aggregated indicators' set is a continuous process unfolded at the level of some international and national organisms. Using aggregated and compatible indicators at international level for monitoring sustainability can ensure more efficiency in developing analyses and justifying the macro and microeconomic decisions, which will lead to realistic approaches of the complex problems regarding sustainable development [8]. But, other authors think that exactly the additive construction of the sustainable development indicators often express conflicting situation and make more difficult the decision-making process. This is the reason why they think the economic and social elements must be presented through indicators separate from the environmental indicators, the latter actually being the ones who allow the assessment of the vital functions of the natural environment and have a stronger relationship with sustainable development. Thus, the quality of the environment is an expression of unfolding the economic activities in a sustainable manner and, at the same time, a guarantee of ensuring adequate living conditions for future generations [9].

The analysis of the indicators' system written in the Eurostat for the monitoring of sustainable development highlights the gap Romania has to cover towards the developed EU countries, but also the growing potential,

which, if used rationally, can lead to reaching the objectives stipulated in the National and European Sustainable Development Strategy.

## REFERENCES

- [1] P. Caratti and G. Lo Cascio (2006, December). Sustainable Development Policies in Europe, *FondazioneEni Enrico Mattei*. [Online]. 152. pp.1-25. Available: <http://www.feem.it/NR/rdonlyres/8EB2B65F-1E4A-469C-86CD-88E227E11F0B/2203/15206.pdf>
- [2] *Agriculture and Environment in EU-15 – the IRENA indicator report*, EEA Report, 2005, no.6, Copenhagen, pp.15-24,
- [3] *Greenhouse gas emission trends and projections in Europe*, EEA Report, 2008, no.5, p.12.
- [4] Eurojurnal, 2008. Camera de Comerț și Industrie București, Available: <http://www.ccib.ro/eurojurnal/>.
- [5] *REACH in brief, Environment Directorate General*, European Commission, 2006. pp. 3-19.
- [6] *Conclusions of the Lisbon Extraordinary European Council (23–24 March 2000)*, European Council - Presidency Conclusions, Brussels, [http://www.ena.lu/conclusions\\_lisbon\\_extraordinary\\_european\\_council\\_2324\\_march\\_2000-020007798.html](http://www.ena.lu/conclusions_lisbon_extraordinary_european_council_2324_march_2000-020007798.html).
- [7] *Measuring progress towards a more sustainable Europe : 2007 monitoring report of the EU sustainable development strategy*, Eurostat, European Commission, 2007. Luxembourg, pp. 4-6.
- [8] U.Gasparino., B. Del Corpo and D. Pinelli, “Perceived Diversity of Complex Environmental Systems: Multidimensional Measurement and Synthetic Indicators”, *FEEM*, no.49, pp.1-34, April 2006.
- [9] R. Hueting and L. Reijnders, “Broad sustainability contra sustainability: the proper construction of sustainability indicators”, *Ecological Economics*, vol. 50, issue 3-4, pp.249-260, October 2004.
- [10] B. Johansson, C. Karlsson, M. Backman and P. Juusola, 2007. “The Lisbon Agenda from 2000 to 2010”, CESIS, Paper no.106 pp.28-32, December 2007.
- [11] H.A. Knut and M. Greaker, “From natural resources and environmental accounting to construction of indicators for sustainable development”, *Statistics Norway Research Department*, 2006, no. 478, pp.16-22.
- [12] Ministry of Agriculture and Rural Development, Available: <http://www.maap.ro/pages/page.php?self=01&sub=0107&tz=010710>
- [13] Ministry of Environment and Sustainable Development, *Romania - Sectoral Operational Programme Environment 2007-2013*, Available: <http://www.mmediu.ro>.
- [14] A. Piebalgs “Energy for a Changing World: The New European Energy Policy”, speech at the EU Energy and Low Policy conference, Brussels, 25 Jan. 2007, PRESS:SPEECH/07/38.
- [15] A. Reihlen and H.Luskow, *Analysis of studies discussing the benefits of REACH*, Institut fur Okologie und Politik, GmbH, pp. 18-24, February 2007.
- [16] *National Sustainable Development Strategy Romania 2013-2020-2030*, Available: <http://www.strategia.ncsd.ro/docs/sndd-v5-r6.pdf>
- [17] *Green Headline Indicators*, January 2000, SOU 1999:127.