

INTERNAL AND INTERNATIONAL CONCERNS OVER SUSTAINABLE DEVELOPMENT AND ENVIRONMENTAL ACCOUNTING

Antonela Cristina Sofronia¹

¹Alexandru Ioan Cuza University, antosofronia@yahoo.com

Abstract: *Sustainable development is the kind of development aimed at meeting the needs of the present, without compromising the ability of future generations to meet their own needs. The European Union has transformed the joint economy - environment into one of its "quasi-constitutional" tasks. Regarding Romania, whose future is tied to the European Union, it is out of the question to have a policy with no clear orientation towards environmental protection.*

Keywords: *sustainable development, environmental accounting, costs.*

1. Introduction

The concept of sustainable development is represented by all forms and methods of socio-economic development, whose foundation must, first of all, provide a balance between the socio-economic systems and the components natural capital.

The best known definition of sustainable development is certainly the one of the World Commission for Environment and Development (WCED) in the "Our common Future " report, also known as the Brundtland Report: "Sustainable development is the kind of development aimed at meeting the needs of the present, without compromising the ability of future generations to meet their own needs".

The concept was originally linked to environmental issues and natural resources crisis, especially that related to power 30 years ago. The term itself is very young and has developed in the summer of 1992, after the Conference on Environment and Development, organized by United Nations in Rio de Janeiro.

Sustainability is based on the idea that human activities are dependent on

environment and resources. Health, social security and economic stability of society are essential in defining quality of life.

Regarding Romania, whose future is tied to the European Union, it is out of the question to have a policy with no clear orientation towards environmental protection. The Accession Treaty of Romania to the European Union ratified by Law no. 157/ 2005, implemented community acquis in the field of environmental protection until the accession date, with few exceptions which needed a period of transition. The period of transition for waste management is by the end of 2017. Romania has defined and finalized strategies on environmental management and started the process of unifying environmental legislation based on EU requirements and integrated into world politics.

International organization Global Reporting Initiative (GRI) has developed a framework adapted to environmental requirements. The purpose of this organization is to promote information regarding sustainable development, and raise social and natural environment to compatibility, rigor and verifiability level, specific to financial reporting.

Implementation of the texts issued by the Global Reporting Initiative is a voluntary request, as these are, so far, not compulsory.

The European Union has transformed the joint economy - environment into one of its "quasi-constitutional" tasks. The European Union must, therefore, obtain the suitable tools for this task; these tools are specified in the European Commission press-releases. There are many opinions on how the nature should be taken into consideration in national accounting. These conflicting opinions arise because of the differences between economic and environmental approaches:

- National accounting records only market transactions while the environment is a non-market phenomenon;
- National accounting only considers cash flows while the environment is characterized by natural stocks and flows;
- National accounting deals with what happens today; the environment requires an analysis of long-term effects.

The European Commission's work program is divided into six interrelated actions:

1. Creating a Green Accounting manual;
2. Developing a European System of Pressure Indices on the Environment;
3. Developing Economic and Environmental Integrated Indicators;
4. Developing Environmental Satellite Accounts;
5. Researching the damage assessment and monetization techniques;
6. Assuring horizontal coordination.

2. Sustainable development in Romania

Sustainable development is a current concern of chartered accountants in Romania, especially in the context of accessing grants. The main concern stands both in expenditures on environmental protection, recycling reusable materials, etc. and in accessing funds for investments in renewable energy.

Deductible expenses for the conservation and preservation of environmental conditions aren't well defined in projects with grant funding, others than those investing in renewable energy.

In Romania, the National Statistics Institute provides a series of indicators for different aspects of sustainable development.

Indicators present in the database^[1] pursue the objectives and targets from the following years: 2013, 2020, 2030, established by the National Strategy of Sustainable Development and are based on the information available from the National Institute of Statistics, Ministry of Environment and Forests and institutions subordinated or coordinated to it and its methodologies which are harmonized with those of the EU.

The main function of indicators is to meet monitoring requirements that are expressed by the National Strategy for Sustainable Development associated with certain targets, which in turn represent political commitments related to strategic objectives of sustainable development.

The set of sustainable development indicators for Romania is structured on objectives of the National Strategy for Sustainable Development, namely into three levels:

- Level 1: Main indicators (basic);
- Level 2: complementary indicators used to monitor and revise the sustainable development programs;
- Level 3: Progress indicators of the National Strategy for Sustainable Development in Romania, covering a policy package that it generates, including those that are not included in the EU Strategy.

Thus defined, the set of indicators can provide a solid foundation to monitor periodically the progress registered when accomplishing strategic objectives of sustainable development.

The IDD system in Romania is congruent with the indicators used in the EU, following the basic outlines:

- Architecture: hierarchical structure on themes, sub-themes, areas of intervention;
- Concepts, definitions, classifications and associated nomenclatures;
- Calculation methods.

The system integrates, in a pyramid structure, economic, social and environmental indicators used for three-dimensional evaluation of sustainable development in Romania.

Database (IDDR) with IDD for Romania includes 103 indicators with data series available in the national statistic system since 2000, ranked as follows: **19 indicators of level 1, 37 indicators of level 2 and 47 indicators of level 3.** The database will be updated and supplemented with other indicators, as soon as others will be available.

The Accession Treaty of Romania to the European Union allowed the implementation of the community acquis in the field of environmental protection until accession, with some exceptions which requested a transition period.

For the EU accession, Romania resolved the following issues: environmental protection, civil protection, nuclear safety. In addition, there is a starting point in the development of environmental legislation. In the Government programs from Romania, in chapter 18 - Environmental Protection Policies the following requirements necessary for sustainable development were exposed:

1. Incorporating environmental policy in developing and implementing local and regional regulations;
2. Assessing the current state of the environment and building strategies that enable a sustainable development of the environment and resources
3. Improving institutional capacity in the environmental field

4. Extending the national network of protected areas

5. Creating partnerships between similar institutions from different countries

7. Strengthening relations with non-governmental organizations

The first consequence was the creation of the Environmental Guard in 2001 with the responsibility to monitor the environment, prevent and prohibit violations.

The Environmental Protection Act, as amended in 2002, outlines how the assessment of the environment, chemicals regime and hazardous chemicals, hazardous waste, pesticides, nuclear activities – should be done etc.

Emergency Ordinance no. 195 of 22.12.2005 refers to the fact that environmental protection ensures the accomplishment of Romania's commitments in the European integration process as a basis for integrating the legal field of environmental protection. In addition, there is a presentation of specific terms that are used throughout the world in this field:

1. Principle of integrating environmental policy into other regional policies
2. Precautionary principle in making decisions
3. Preventive action principle
4. Retention principle of pollutants in their source
5. The "polluter pays" principle
6. Principle of biodiversity and specific ecosystem conservation
7. Sustainable use of natural resources
8. The informing process that allows people to participate in making decisions
9. Development of international union to protect the environment

This selective legislation outlines Romania's concern for environmental protection by preventing, limiting and eliminating effects that have a negative impact on it. To prevent, restrict or exclude undesirable effects on the environment, stakeholders (government, NGOs, private

companies, population) must make a special financial effort.

Green accounting relates to the identification and measurement of costs for materials and environmental activities and uses this information to manage environmental decisions. The aim is to recognize and seek in order to mitigate the negative effects on the environment. Green accounting is a management tool used for a variety of purposes such as improving environmental performance, controlling costs, investing in 'clean' technologies, *greener* processes and products and information on product mix.

3. Legislation and standards

TQEM - Total Quality Management Environment (TQEM) is a concept that allows companies to implement Quality Management practices and include environmental elements in corporate strategies.

In Romania, the environment management is represented by the standard ISO 14000.

ISO 14000 standards cover a wide range of five actions^[2]:

- Environmental management systems,
- Environmental Audit,
- Assessment of protecting human communities as opposed to industrial activities which have a negative impact
- Classification in terms of environmental policy
- Life cycle assessment of products and services.

The usage guide, provided by ISO 14000, outlines requirements regarding the integration of environmental management in the overall structure of the organization's management. Its material application is based on the environmental policy adopted by the organization.

The **ISO 14000** are general standards that refer to environmental management

systems designed to control the impact of corporation processes on the environment.

These standards: *define models* of environmental management systems that can be implemented by an organization for internal or external purposes, *provide tools* to *assess the conformity* of an environmental management system with chosen referential, *environmental performance assessment*, *preliminary analysis* and *environmental assessment* of the corporation's sites.

Essentially, an environmental management system follows the quality management model, namely: *plans, does, checks and acts* (PDCA in English).

PDCA can be briefly described as follows:

- **Plans** - establishes objectives and necessary processes to obtain results consistent with the corporation's environmental policy;
- **Does** - implements processes;
- **Checks** - monitors and measures processes, objectives, targets, legal requirements and other requirements, and reports the results;
- **Acts** - takes action to continuously improve performance of the environmental management system.

Benefits of implementing an environmental management system:

- **Cost reduction**
 - § reduce raw material costs;
 - § reduce energy consumption;
 - § reduce transport and storage costs;
 - § reduce disease risk;
 - § smaller insurance budgets because of risk reduction.
- **Market Benefits**
 - § improve the public image;
 - § use the advantage in new markets;
 - § keep markets already won.
- **Benefits for customers**
 - § increase customer confidence in supplier probity;
 - § competitive prices due to minimization of waste;
 - § better use of financial resources.

· ***Employee Benefits***

§ improve working and living conditions;
 § potential improvements to health and quality of life;
 § commitment to a policy that improves environmental quality increases employee involvement.

· ***Environmental Benefits***

§ reduce raw material consumption, emissions, waste, noise, energy use and impact on ecosystems.

· ***Better relations with environmental authorities***

§ increase the ability to better understand the legislative requirements and develop a systematic approach.

In Romania, during a research project conducted at ASE Bucharest under the leadership of Professor Dr. Caraiani Chirata, the GAIA model was proposed which integrated and reported information on sustainable development and environmental protection in accounting. In recent years, a part of the large corporations began to present in financial statements also environmental data, but this isn't a mandatory rule nationwide.

Green Accounting conducts accounting through a transorganizational and transpersonal development^[3]. Whereas Green Accounting is focused upon multi-constituency accountability, specifically tracing and identifying the accumulating green costs and green revenues of products both to internal managerial accounting to externalized social and ecological accountability. Taking into account that the EMTS is partial additive, in which some elements are cumulating their effects while the others are not, therefore we must avoid the trap of double recognition. In the case of using the methodology of compound computation, there is a possible danger in the appearance of effects that sum up but are not cumulative and in which the maximum effect must be considered as the highest priority. If one is using the component computation than two types of potential error sources are identified: on

one hand the multiple recognition of the effects that are induced by a product or services in different stages of a cycle and on the other hand the recognition of the same sources used in the process of obtaining goods and services (City Limits- A resource flow and ecological footprint analysis of Greater London, 2002)^[4]. To avoid these errors there are some corrections of the ecological footprint through the exclusion of the effects induced by matter, energy in order to obtain other resources.

4. GAIA Model

Green Accounting is a component of Environmental Accounting, a quantifier of the entropy of a given system. It assesses the equilibrium of a system and the events that are unquantifiable. The assessments predict the catastrophic behavior of a system.

GAIA is an Organic Model of Sustainable Development.

The first image of GAIA confuses various cultures with organs of the global organism. Even if the model looks accurate enough, it is not. This model created unique crops, or centralized economical model used by the communist countries. As a result, unbalanced economies in the third world based on cultivation of a unique plant, or the ex- communist countries based on only one kind of economical product, created revolts, revolutions, and wars. Even if from the structural perspective these economical models look complete, they don't cover the number of dimensions required by humans to get a balanced structure. For example, a culture in which only money is appreciated will create de-balance in achieving social position due to personal skills, and professional merits. Such a country will become a political Mafia that will not respect human rights, creating the emigration needs for each person that wants to be appreciated conforming to his or her merits. The lack of specialists will

determine soon a decrease of the economic level, poverty and revolts.

Different stages of development of the global culture GAIA^[5] as an unique cultural organism will be partially considered as similar with the development of an complex organism from a cell to a simple collection of nondifferentiated cells that form a colony, to a culture of differentiated cells that form a simple organism with organs; than to the stage of more complex organism able to regenerate from an organic segment; to the stage of complex organism able to regenerate some organs; and finally to the stage of a complex organism that is so complex that every part is irreplaceable. From the sociologic perspective the last stage will be the one of the global peaceful world, in which humanity and environment will form a symbiotic global organism.

For each stage, the functions of the organism are different in the level of complexity. The social analyses that are isomorphic with the biological evolution will evidenciate functions- programs, organs-institutions, and biological relationships-social relationships. The hypothesis is that a living organism is structured to respond to the same specific needs as a complex social organism. It is also hypothesized that a living organism's functions form a complete set of functions able to assure survival and evolution.

Another hypothesis used in this model is the existence of complex relationships among various compounds of an organism, relationships that suppose the existence of informational feedback cycles. These feedback cycles will behave using the same pattern generated by the two halves of the feedback: the self-stimulating half and the self-inhibitory half. The general pattern of these behaviors will be represented as a graph theory, and is supported by a homological algebraic theory; algebraic fractals and fractal varieties, that basically develop structures with different stages of complexity, but

that respects at any level the same basic rules.

These feedback cycles that characterize the informational connection between two informational components will also characterize an internal dialog between two organic components of the same biological or social organism, and an external dialog between two partners of dialog. As a potential of this theory is the prediction of human global society considering comparative analyses of the evolution of a living organism.

5. Conclusions

The main idea of this theory is^[6]: **socio-genesis repeats embryogenesis**, and the isomorphic behavior of socio-genesis and embryogenesis creates a connection among functions-programs, and organs institutions. The main advantage of this theory is the possibility of prediction for the future of the global world GAIA, the diagnosis of various stages of development of GAIA, and the creation for potentials of strategies able to correct various social diseases, as tumors leading to uncontrolled development of young cultures in the detriment of other or of the global organism, self-immune diseases leading to diseases.

Isomorphic informational needs and patterns for the two or three phenomena can prove this isomorphism: socio-genesis, organo-genesis, and phylogenesis. This article will start with the analyses of the actual stage of cultural and social development, by comparison with various stages of organic development of an organism.

References:

-
- [1] http://www.insse.ro/cms/files/Web_IDD_BD_ro/index.htm
 - [2] <http://standardizare.wordpress.com/2009/03/09/familia-iso-14000/>

-
- [3] Caraiiani, C., Jianu, I., *Green Accounting – economic ethics related to the environment*, Bucharest, 2006
- [4] Caraiiani, C., *Green Accounting - an ecological vision on the economic environment*, Bucharest, 2005
-
- [5] Dumitrana, M., Dascalu, C., *GAI A-organic model of intercultural development (II)*, Bucharest, 2006
- [6] Dumitrana, M., Caraiiani, C., Dascalu, C., *From Traditional Accounting to Environmental Accounting - a Demand for European Integration*, Bucharest, 2006