

SUSTAINABLE DEVELOPMENT THROUGH ECO-ECONOMIC DEVELOPMENT

Vergina CHIRITESCU¹, Manuela Rodica GOGONEA², Ruxandra Daniela ANDREI³,
Mihaela KRUZSLICIK¹, Viorica GAVRILA¹

¹ Romanian Academy, Institute of Agricultural Economics, Calea 13 Septembrie Street, no. 13, District 5, Bucharest, Romania, Phone / Fax: 021.318.24.11, E-mail: v.chiritescu@yahoo.com; kruzli@yahoo.com; vioricagavrila@yahoo.com

² Academy of Economic Studies, 15-17 Calea Dorobantilor, District 1, Bucharest, Romania, E-mail: manuela.gogonea@gmail.com

³ Romanian - American University, 1 B Expozitiei Street, District 1, Bucharest, Romania, E-mail: ruxandrei@yahoo.com

Corresponding author: v.chiritescu@yahoo.com

Abstract

The issue of the relationship between humankind and the environment became scientific and economic concerns of the international community since the first UN Conference on the Human Environment (Stockholm, 1972) and resulted in the work of the World Commission on Environment and Development, established in 1985. Report of the Commission presented in 1987 by GH Brundtland, entitled "Our Common Future" provided the first universally accepted definition of sustainable development as "development that meets the needs of the present generation without compromising the opportunities of future generations to meet their own needs". Brundtland Report, 1987, was reaffirmed by the United Nations Conference on Environment and Development / Earth Summit held in Rio de Janeiro - Brazil, 1992 which established the principles of Agenda 21, which was intended to be a guide implementation of sustainable development for the 21st century, a development that was required to be applied at national, regional and local level. [1] In the context of developing new eco-economic system adopted a number of international conventions that establish detailed obligations of the States and strict implementation deadlines climate change, biodiversity conservation, protection of forests and wetlands, limiting the use of certain chemicals, access information on the state of the environment and other international legal space outlining the practical application of the principles of sustainable economic development in ecological conditions.

Key words: eco-economy, economic growth, environmental protection, sustainable development,

INTRODUCTION

The concept of eco-economic development is the premise that human civilization is a subsystem of the ecosphere, dependent on material and energy flows within its stability and capacity for self-adjustment. [2] Thus, we can define **eco-economic development** as a *new paradigm of development* created by the confluence of economic, social and environmental (ecological).

Eco-economy is the science that seeks to establish that level of socio - economic activities that biological systems can be effectively and efficiently used without destroying the conditions for their regeneration and sustainability. In this vision, sustainability of eco-economic systems

depends on economy, society and environment.

At first glance, it might seem strange that combination terminology "ecology" and "economy" which, as we know, there are two part science, scientology classification of different research areas: first the "Natural Sciences" and the second in the "Human Sciences". [4] In reality, however, the etymologically, these sciences not only have a common root called in Greek "oikos" - home, dwelling, environment, but basically have a subject like - management house, with some shades particular. By analogy, "the economy is dealing with finance management and ecology and environmental management." [4] Currently, in Romania and in the world there are many experts in economics, ecology,

biology, statistics, mathematics, sociology, politics etc. (Nicholas Georgescu - Roegen, Ilya Prigogine, Lester Russel Brown and many others), which promotes **sustainable integrated development concepts, bio-economic and eco-economic development**, accepting reality and serious problems of modern society, such as: [3]

- rarity and limited natural resources;
- limitations and restrictions rational economic development;
- pollution and alarming degradation of the environment;
- climate change and global warming;
- underdevelopment and food crisis;
- the economic, financial and social crisis.

Recent decades have brought to the attention of the public and decision makers a new dimension - **the environmental dimension of economic and social phenomena**. Long considered a stand-alone issue, *the environment* now have a general recognition, which only means that it supports the integration of a new look, a new dimension in every human activity to prevent situations of imbalance that led to dramatic effect with multiple economic and social costs. [7]

Currently addressing eco-economic phenomena, particularly the economic and social sustainability is the main premise, **eco-economy** being in direct relationship with both ecosystems and the biodiversity.

MATERIALS AND METHODS

In this paper includes the results of fundamental research based on the study of national and international bibliography. Thus, have been identified new concepts, were stated the original hypotheses and substantiated a number items were retrieved more often in scientific discourses on the new paradigm of sustainable development.

RESULTS AND DISCUSSIONS

Eco-economic development becomes an increasingly important role in the sustainable development process, where more often discussed the need to ensure fairness between

generations, but also within them. In the figure below (*Fig. 1*) can be observed, for example, global interactions between social, economic and environmental (ambient) to ensure a eco-economic system bearable reasonably supported (sustainable) and viable. According to this paradigm eco-economic sustainable economy respects the "offer" of ecosystems is dependent upon all its resources, such as fisheries, forest resources, pastures and meadows, arable land, etc.. As long as harvests do not exceed sustainable supply can be supported acceptance of the limits of natural systems. [2]

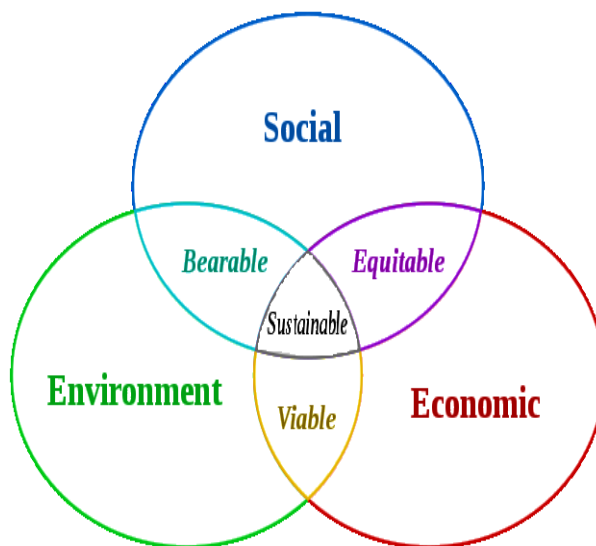


Fig. 1. Diagram of eco-economy paradigm

In these circumstances, the new fundamental concept **eco-economy** believes that the modern economy must be based on the fundamental rules of natural and artificial ecosystems (anthropogenic) to save the planet and its endangered civilizations. [2]

Nicholas Georgescu - Roegen, in his works, **distinguish between growth and development**, two terms so often confused and sometimes used in the theory and practice of economic thought. Taking the ideas of Joseph A. Schumpeter, Nicholas Georgescu - Roegen states: "*growth means to produce more development to produce otherwise*". [5]

Dominated by the idea of perpetual accumulation, mankind has been for centuries and are still in a continuous pursuit for this "more" without understanding the truth that,

in fact, its natural purpose is to "be" in a qualitative context - moral and material - higher. Essentially, the originality of his thinking N. Georgescu - Roegen consists of an evolutionary vision of economic development of the human species associated laws of nature and especially Law Entropy (second law of thermodynamics) which he calls "the most economical of laws of physics". [5]

Humanity depends essentially on the economy, but thereby generating a significant impact even on the substrate on which it was inserted, the substrate on which life itself. Responsible treatment of this delicate coupling is therefore something of vital importance and is based on the application of economic theories that do ignore its existence, can be evaluated so that the balance between human and nature is not harmed irreparably.

Eco-economy and bio-economy is a multidisciplinary field of academic research *addressing interdependence and co-evolution of human economy and natural ecosystems over time and space.*

In perhaps surprisingly, the first in the world biologists who tried and failed to make a logical bridge between ecology and economy was known Romanian biologist (ecological, ichthyologist, museologist) *Grigore Antipa* (1867 - 1944), one of the first students of E. Haeckel, who urged specialists to address all issues regarding the nature of living systems through the prism of economics. Also, G. Antipa was the first in the world that addressed ecosystem biologists, even though this term does not exist. This enables us to say with certainty that Romanian biologist founded *ecological and economic productivity conception of natural ecosystems.*

Noted Romanian economist Acad. N. N. Constantinescu appreciates Grigore Antipa, saying, "*if he was an economist environmentalist, certainly was an environmentalist economist*". [5]

As can be seen from the above, the vast majority of economists addressing economic activity and bio-ecological vision, they are asking the same basic questions about the real

importance of putting in the forefront of cost - benefit analysis.

Based on analysis of different areas of science (economics, ecology, biology etc.), bio-economy and eco-economy studying complex economic relations between economy and environment, focusing on issues such as: energy and material flows, degree environment, sustainable economic development etc. In this vision, **sustainability depends on eco-economic** systems: economy, society and environment (*Fig. 2*). [2]

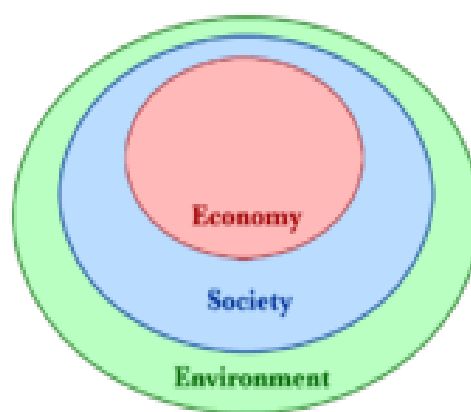


Fig. 2. Pillars of sustainability

As you can see from the picture above, the two circles "economy" and "society" are included in the great circle of the environment. In other words, the economy and society are included in the planetary ecological system. This view is useful to correct the misconception, which are sometimes drawn diagrams of sustainable development, social and economic systems which are independent of the environment.

CONCLUSIONS

All phenomena of negative environmental impacts, but especially negative effects of pollution on soil, water, air, biodiversity and landscape, determined attitude change scientists and decision makers regarding the development strategy. Thus, now is discussed about a **new philosophy of sustainable development**. Humanity depends essentially on the economy, but thereby generating a significant impact even on the substrate on

which it was inserted, the substrate on which life itself. Responsible treatment of this delicate coupling is therefore something of vital importance and is based on the application of economic theories that do ignore its existence, can be evaluated so that the balance between human and nature is not harmed irreparably. [6]

The vast majority of economists addressing rural economic activity in ecological and eco-economic vision, they are asking the same basic questions about the real importance of putting in the foreground cost - benefit analysis. Based on analysis of different areas of science (economics, ecology, biology etc.) **eco-economic sciences** studying complex relations economy - environment, focusing on issues such as energy and material flows, degree environment, sustainable economic development etc.

The environment currently considered a political priority internationally, can not be excluded from enrollment concerns coordinates Romanian rural economy to market economy. **Eco-economic development** involves externalities borne by the environment, which makes the account even long-term viability of the process itself, the interaction environment - saving the character of feed-back. Inserting environmental policy instruments is not only necessary but also desirable, in this period the world economy navigates looking for a balance. [7]

In conclusion, **integrated economic development** means ensuring progress simultaneously on four fronts: economic, social, environmental and technological. In this context, *the approach of eco-economic sustainable development* is particularly important for achieving sustainable development. This results in the need to overlap ecological economy, namely the need to integrate environmental requirements in assessing economic and social activities. This is necessary given that the market signals they transmit are often invalid, do not reflect the environmental damage, costs that will be incurred by the company in the long term.

Genius work of these thinkers, such as Nicholas Georgescu - Roegen, Ilya Prigogine,

Lester Russell Brown and others, is and will remain the property of humanity that present and future generations have moral and professional duty to give value and meaning wanted, namely: **sustainable economic development for the benefit and welfare of the entire community.**

REFERENCES

- [1]AGENDA 21, 1990, Programme of Action for Sustainable Development - United Nations Headquarters, New York.
- [2] Brown, L. R., 2001, Eco-Economia (Eco-economy - Building an Economy for Earth), Tehnica Publisher, Bucharest.
- [3]Chiritescu, Vergina, 2011, Sustainable rural development in Romania - needs and objectives priorities, „Agricultural Economics and Rural Development” Review, The Romanian Academy Publisher, Bucharest.
- [4]Dediu, I., 2009, Ecologia si economia – doua stiinte complementare. Prolegomenele bioeconomiei (Ecology and economy - two complementary sciences. Bio-economy prolegomenes), „Noosfera” Review, No. 2, Bucharest.
- [5] Georgescu - Roegen, N., 1971, The Entrophy Law and the Economic Process (Legea entropiei și procesul economic), Tehnica Publisher, Bucharest.
- [6] Hanion, K., Kinner, T., 1975, Ecological marketing, American Marketing Association (AMA), Chicago.
- [7]2020 STRATEGY. A strategy for smart, sustainable and inclusive, 2010, Council of Europe, www.ec.europa.eu.