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## Stages of materializing the sustainable development concept

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### Abstract

*This article discusses the different views on the natural environment achieved during economic history and moments that have contributed to economic development orientation towards concern for the environment. In the Marxist view, nature had no value; it was used with the aim of production. Neoclassical economic comes from the late nineteenth century with the idea that nature gives us resources and economic activities may not create problems.*

*The first report of the Club of Rome, Limits of Growth, the first World Conference on the Environment in Stockholm in 1972, the works of the World Commission on Environment started in 1983 constituted warning signals of environmental issues and the need for a shift to an economic development whose activities are focused around environmental pillar.*

*Sustainable development gains the economic and social sides which are depending on the environmental pillar starting with Brundtland Report.*

*Next conferences on sustainable development were held in 1992 in Rio de Janeiro, in 2002 the World Summit on Sustainable Development in Johannesburg and Rio +20 conference where evolutions were analyzed and goals were set.*

**Key words:** sustainable development, environment, economic growth, environmental protection



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### INTRODUCTION

Sustainable development involves care for nature firstly, the development of methods beneficial to economic development and the environment. We are ephemeral in the universe, while the environment in which we live and develop should be left as a inheritance to future generations.

Economic development and the environment are two issues that are interdependent and have repercussions on society as a system consisting of pillars of sustainable development: environment, economy and social. In today's economy environment has dual role, it gives us his resources necessary to produce goods, but also receives waste from economic activities. Combining economic growth with social equity and environmental protection for present and future is the new form of sustainable development.

### ECONOMIC PERSPECTIVE ON THE ENVIRONMENT

Economic development and the environment are two issues that are interdependent; the environment is home, shelter in which we improve lives through actions that lead to our development as a society. The link between environment and economic growth is shown by Kuznets curve which reveals by the "U" letter turned that environmental problems arise with economic growth, and when there is a high rate of growth, environmental policies can be effectively implement, helping to decrease environmental problems. Over time, studies have shown that this theory is valid only for pollution with nitrogen oxides and sulfur dioxide, while energy consumption and GHG emission reductions have not registered decreases even in the richest countries.

A well-defined place in economic thinking was formed due to limited natural resources that have been the source of many theories over time.

Nature was considered a factor of production alongside labor and capital by A. Smith (1723-1790). The ground worked for human well-being and it was his "wealth". Malthus (1766-1834) developed his "Essay on Population" and he initiated in 1798 the theory of population explosion and limits development considering the following allegations: biological capacity to reproduce the human being is more than the physical increase food supply , mortality is increasing reproductive capacity lies in limiting food resources (Stoica M., 2005).

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As for economic development the scarce natural resources is a restriction, in turn economic development with population growth are environmental pressures. He said that demographics progressed exponentially every year. Population growth rate was double and resources growth rate was arithmetic. Population growth percentage was maintained, if we look back the number of inhabitants contemporary Malthus was 1 billion and in 2010 is 6.8 billion. The difference is that at that time people benefited from untapped areas.

In 1815 David Ricardo (1772-1823) sees the end of economic growth as a solution to decrease the amount of natural resources. This idea was discussed and J.S. Mill in 1862 which proposed that any increase, even economic, must reach a steady state. In the Marxist view, nature has no value; it was used for the purpose of production. Neoclassical economics comes from the late nineteenth century with the idea that nature only provides us resources and economic activities cannot create special problems.

This conclusion took shape with the explanation that the decrease in natural resources attract volume clearly increased their prices (supply-demand relationship), and the company is obliged, helped by technology research and development, to find forms of resource replacement with lower price. AC Pigou meets the idea of saving resources for future generations' welfare following strategies in 1929: abolition of taxes with negative effects on the economy, initiate policies to protect resources, encouraging afforestation stimulation process. Thus, Pigou saw state contribution and policy applied a very important role in environment protection.

After 1960 neoclassical theory was developed to support the determination of environmental interdependence between the environment and economic development. Solow's (1974) and Stiglitz (1979) views have contributed to this finding. This theory is also the basis of today's economic crisis, appeared as an expected result resource crisis characterized by rapid growth rate of oil reached \$ 140 / barrel for 2008.

In today's economy the environment is regarded as the roles it holds, that bidder natural resources to maintain life on earth, to create economic products, welcoming wastes obtained business processes. Environment was characterized in 1997 by Hinterberger as a circulating monetary fund or as a stock of techniques that can be reproduced and maintain a flow of goods and services. Georgescu-Roegen (1981) did not consider the relationship between environment and economic development, assuming that resources can be ensured and waste can be absorbed without any restriction.

Traditional growth based on rising values of GDP, left serious marks on the ecological balance. The first phase of the Industrial Revolution 1800-1900 was characterized by significant effects on the environment when compared with the positive results of living. The second phase of the industrial revolution 1900-1950 comes with environmental problems, pollution of air and water. In the second half of the twentieth century (1950-present) environmental problems caused by areas of activity led and still lead to economic development - transport, agriculture, industry- became global.

#### **PREREQUISITES FOR SUSTAINABLE DEVELOPMENT**

Environmental damage, resource limitation is problems highlighted by the global economic crisis of 1960-1970 periods. International Union for Environmental Protection founded in 1948, published the report Environment in the world. Through this report was intended transition to a new development where there is a close relationship between economy and ecology. The next step was the publication in 1980 of the World Conservation Strategy Natural Environment.

In 1968, concerns about finding new forms of development have guided economist Aurelio Pécel to form a group of 70 representatives from 25 countries under the name Club of Rome. Some reports were developed in which global issues were analyzed and became objectives of the new development pathways. Basis of acclaimed report "*Limits to growth*" (1972) were made by Jay Forrester, a scientist who worked on the project MIT (Massachusetts Institute of Technology) for "Club of Rome" and developed a mathematical model of the world, analyzing issues for the period 1950 - 2030. In this first report the evolution and relationships between population growth, industrial and agricultural pollution was related. Donella Meadows used the term sustainable development calling for rethinking the relationship between human being and nature.

In terms of five variables: population, food, technology, natural resources, environment, study highlight that keeping the same pace of economic development in the world will consume the planet's non-renewable resources by 2072. So a sudden and uncontrollable decline in living standards would followed (Ciobotaru V., Socolescu A.M., 2008).

The interest in the 5 variables and what is happening today, make us understand that members of the Club of Rome have characterized the growing population as pressure on the environment and natural resources, the environment itself cannot sustain food requirements which quality and quantity are affected by environmental problems. The solution of the '70 researchers is coming from technology which together with investment will annihilate negative effects on the environment.

It was showed that population growth will attract depletion of natural resources, which together with high levels of pollution will cause regression of agricultural and industrial production. Another determining factor was the emergence of differences in living standards between rich and poor.

As a solution to the ecological crisis, Donella and Dennis Meadows proposed zero growth, which means that the economic and population grow at the same time as GDP / capita does not change. Criticism of this new proposed increase did not fail to appear. Some experts have considered this proposal was unfair. The type of growth that has alarmed by waste should have been replaced with a rational type, based on another array of values and an otherwise technical production and consumption. Developed countries could agree to stop growth, while the weak countries would be left far behind developed economies. The gap would lead to serious consequences on poverty population, contrary to the objectives of sustainable development.

The second report, "*Mankind at the turning point*", appeared in 1974. Its authors, Michael Mesarovic and Eduard Pestel, saw the solution to establish a new ecological balance model of growth - organic growth. In this report, the idea presented in "*Limits to growth*" on the difference between nations as abnormal phenomenon is demolished. It was mentioned that the world can be seen only in relation to cultural differences, economic development. The pattern of division of the world into ten regions is proposed. Through his studies showed that the situation is quite alarming. The "limits" imposed in the first report were overcome, household consumption is high and resources were reduced.

Third report of Club of Rome, "*Reshaping the international order*" (Project RIO) was published in 1976. The fourth report (1977), "*Goals for mankind*" focused on the development of energy resources, environmental issues such as climate influence human activities. The fifth report, "*Beyond the age of waste*" and sixth, "*Energy, the countdown*", were developed in 1979. The seventh report, "*No limits to learning*" (1979) took forward the idea of Pecceli the crucial role of training and education in sustainable social development. In 1982, Gunter Friedrichs and Adam Schaff developed the report "*Microelectronics and Society, for Better or Worse*".

Authors of 2012 Club of Rome study, "*Bankruptcy nature*", Johan Anders and Wijkman Rockström, based on the idea that the solutions of previous reports are exceeded. They believe that the solution leaving the global ecological crisis is moving to a circular economy in which sign of equality between wealth and resource consumption disappears. Another feature of the new economy would be raising taxes on the use of new raw materials and GDP may not be the main objective of development.

Club of Rome studies drew attention to the need for developing ways to include concern for ecological balance in all countries. The alarm signal is held worldwide because at this level adverse effects concerted visible earlier development of mankind has been observed.

Relationship between economic growth and environment in the context of sustainable development should be regarded as long term and short term. Natural resources must be exploited sparingly, in a sustainable manner to ensure better living conditions for future generations, and in an ecological manner respecting environmental standards so that the present generation to benefit from a clean, unpolluted environment.

Problems such as uncontrolled population growth (especially in poor areas), intensive use and dependence on energy, water, natural resources, human activities with an impact on environmental quality is a danger to present and future generations to enjoy sustainable capable ensure quality of life.

The report "*Limits to growth*" led to the the first World Conference on the Human Environment in Stockholm in 1972, during which it was noted that human activities contribute to environmental damage,

with serious consequences on the population. During the conference "eco-development" term was conceived that links economic and environmental principles.

Environmental protection and nature is an urgent need for immediate action in various fields ( Bran F., Ioan I., 2001). This first Global Conference on Environmental Problems, "About the environment" armed with the creation of Community Environmental Policy and started six European Union environmental programs. The Conference motto attended by representatives of 114 states was "One Earth", and the conference has made clear the importance accorded environmental footprint. June 5 was declared World Environment Day. The environment protection finds its place in the definition of development. Other roles of the conference are transforming environmental sector in the field of global action and creating environmental ministries in the 110 countries in the early 1980s, the creation in 1973 of the Voluntary Fund for the Environment, creation United Nations Environment Programme. Environmental issues (climate change, biodiversity loss, ozone depletion) have a local source, but global implications (Carol McAusland, 2005).

A basic document was issued, *Final environmental impact statement*, which emphasized the link between human being and the natural environment through dependency between quality of life and the environment. Human being receives from nature food, shelter, intellectual, moral, social growth opportunity. But every individual can transform the environment. Important is the way of change and the effects reflected on the welfare of society. There was highlighted the difference between developing and developed countries. In industrialized countries environmental issues arising from economic growth, while in developing countries problems are due to lack of food, education or health.

There are set out 26 principles, the first principle establishes the basic human right to freedom, living in a clean environment and human obligation to protect nature, sustainable use of non-renewable resources. There are mentioned the importance of preserving nature for economic development, the need for environmental policies that stop discharges of pollutants with adverse health effects. It aims to promote environmental education of children and adults, scientific research and development in the context of environmental issues in all countries, especially developing countries.

## REQUIREMENTS OF THE NEW TYPE OF DEVELOPMENT

World Commission for Environment and Development started its activity in 1983 under the leadership of Prime Minister of Norway at the time, Gro Harlem Brundtland and aimed to study the dynamics of environmental damage and providing long-term solutions for the development of humanity. The Commission was composed of 22 members of different professions, just for development to be seen from all perspectives and most importantly, members belonged mostly developing countries. In 1987 the World Commission on Environment report entitled "Our Common Future" was issued most famous definition of sustainable development from six in total: *Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs* (World Commission on Environment and Development, *Our common future*, 1987)

If in the 70's need to move towards sustainable development was made on the basis of environmental concerns, with the Brundtland report takes the concept and the economic and social dimension, by which human being enjoys economic growth, ecological balance and social good conditions. Sustainable development requires the integration of environmental objectives, maintaining natural resources and human health that serve as support for current and future growth.

In the development are equal, so the basic ideas of the report present new development as support for increasing everyone living and environmental conservation.

*"The concept of sustainable development does imply limits imposed by the present state of technology and social organization on environmental resources and by the ability of the biosphere to absorb the effects of human activities"* (<http://www.un-documents.net/ocf-ov.htm>). Economic system uses the resources provided by nature to produce goods and manufacturing effects are absorbed by the environment in the form of pollutants, waste, but not entirely. Here comes the characteristic of "limited" of sustainable development. This limit must be known, applied and enforced.

Conclusions set out in Chapter 2 of the Brundtland Report, entitled "Towards Sustainable Development" are presented as recommendations to be taken into account in the management of states that pursue

sustainable development: ensuring citizens' participation in decision making when environment is affected, an *economic system* that is able to generate surpluses and technical knowledge, a *social system* that provides solutions for the tensions arising from disharmonious development, a *production system* that respects the obligation to preserve the ecological base for development, a *technological system* that can search continuously for new solutions, an *international system* that fosters sustainable patterns of trade and finance, an *administrative system* that is flexible and has the capacity for self-correction.

Conference June 3 to 14, 1992, entitled *Earth Summit* was organized by the United Nations in Rio de Janeiro and played a decisive role in imposing the term sustainable development, considered a new development path to support human progress for the planet and future periods. Documents signed at the conference is the cornerstone of environmental concerns: the Convention on Biological Diversity, the Rio Declaration on Environment and Development which was set 27 main stand today on the environment, the Declaration of Principles on Forests, the Convention - framework on Climate Change. Another extremely important was the development of Agenda 21 and sustainable development agenda, a tool to promote the concept, divided into four parts, with the intent transition to sustainable development for the participating states. Agenda 21 had an important role on creating sustainable development indicators by which progress and areas that require other policies are observed.

Social aspects of poverty (one third of the global population living with \$ 2 per day), access to clean water, sanitation, spread of HIV, the natural environment crisis issues raised by drought, ecosystem damage, and increased fuel requirements were debated 10 years after the Rio conference, the World Summit on Sustainable Development in Johannesburg. At the end of the summit, divided into 11 chapters, were signed *Policy statement* (the statement of sustainable development) which reinforced the importance of addressing sustainable development in terms of the economic, environmental, social and *Implementation Plan*, which emphasizes the need to establish sustainable development strategies.

Document obtained under the World Summit on Sustainable Development in Rio de Janeiro, held 20 years after the first Earth Summit in the summer of 2012, was entitled suggestively *Future that we want*, pointing once again that requirement of sustainable development is poverty eradication, barrier to sustainable human development. Other equally important problem is the adoption of sustainable consumption and production patterns, protection of natural resources, reducing inequalities, social inclusion, and gender equality. It was reaffirmed the idea that human being is at the center of sustainable development and has the right to freedom, peace, education, adequate standard of living, without any discrimination.

## CONCLUSIONS

Sustainable development concerns all of us. The planet evolution depends on us. The future depends on the present, as present depends on the past.

Economic development and the environment are two issues that are interdependent, environment is home, shelter in which we improve lives through actions that lead to our development as a society. Our quality of life and future generations depends on the quality of the natural environment.

At the level of the 70's need to move towards sustainable development was made on the basis of environmental concerns. Once Brundtland report, the concept gains economic and social dimension. Human being benefits from economic growth, ecological balance and social good condition. Sustainable development requires the integration of environmental objectives, maintaining natural resources and human health that serve as support for current and future growth.

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