ECOLOGIC CRISIS AND ECONOMIC CRISIS. IS IT A COINCIDENCE?

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Abstract

We constantly speak about the crisis, a phenomenon which characterizes both the individual and the society. The individual is always in a crisis of time, inspiration etc. In turn, society undergoes periods of ecologic, economic, financial, social, political crisis. From among crisis forms, two of them are particularly worth noticing: the ecologic crisis and the economic crisis. Could their coexistence be a mere coincidence or maybe ...?

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Introduction

Crises are manifestations of economic, social, political difficulties, which are felt by the society. Such situations are characterized by significant instability, accompanied by increasing volatility and uncertainty.

The common feature of these crisis situations, regardless of the form they have, is the constant feeling of anxiety and uncertainty related to the future, fear or even panic (Păun, 2008).

1. Ecologic crisis

When we talk about the environment in general and about man's living environment in particular, we forget that man's survival, both as an individual and as a species, regardless of the development stage he has already reached or

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will reach in the future, has depended and will fully depend on the Earth's natural systems and resources (Sandu and Ioniţă, 2003, p. 7).

Unfortunately, in this context and as the global economy is constantly expanding, ecosystems are damaged at an increasing pace (Ioniţă, 2007, p. 7).

1.1. Environmental trends

Given the current ecological crisis, there are several environmental trends which shape the future of humankind, whether we like it or not (Ioniţă, 2003, p. 330).

A. Temperature rise

Temperature rise is mainly caused by the growth of the concentration of carbon dioxide in the atmosphere (Ioniţă, 2007, p. 7).

According to estimates, this growth (IPPC, 2007, p. 37) reached the level of 379 parts per million in 2005 (from 280 parts per million more than 200 years ago). Under the circumstances, also according to estimates (WMO, 2010), the average global annual temperature increased by approx. 0.5°C, from approx. 14°C (1969-1971) to approx. 14.5°C (2009).

If scientists' estimates will become true and the concentration of the carbon dioxide doubles (as compared to pre-industrial concentration) and the temperature rises by approx. 2-6°C (IPCC, 2007, p. 67), a series of consequences will become apparent (Lynas, 2009), which are as "apocalyptic" as possible:

a) at a temperature increase by less than 2° C:

- the Arctic ice will disappear, influencing dramatically the Earth's energy balance;
- tropical coral barriers will undergo severe and repeated episodes of "bleaching" and will diminish dramatically;
- draughts in sub-tropical areas will be accompanied by waves of heat and extended fire;

b) at a temperature rise by 2-3° C:

- in summer, the waves of extreme heat (such as the one in Europe in 2003) will become annual events;
- a large part of the Amazon jungle will be replaced with savannah or desert;
- carbon dioxide dissolved in water will increase the acidity of oceans, destroying many of the plankton species;
- the sea level will grow by a few meters and the ice blanket will disappear from Greenland;

c) at a temperature rise by 3-4° C:

- glaciers and snow from mountainous chains will melt and will no longer supply the drinking water resources of human settlements and agricultural fields at the foot of mountains;
- global food production will be endangered because of the draught and the heat waves that will exceed the tolerance limit of harvests.
- the Gulf Stream will diminish significantly and the ocean changes will modify all the weather patterns;

d) at a temperature rise by 4-5° C:

- global warming will be accelerated when massive amounts of methane will be released as a result of defrosting of the Siberian permafrost;
- many human settlements from the South of Europe, North of Africa, Middle East and other sub-tropical areas will become useless because of excessive heat and draught;
- the entire "sea of ice" from both poles will disappear, just like the glaciers in the Andes, Alps and Rocky Mountains;

e) at a temperature rise by 5-6° C:

- the entire Arctic region will be devoid of ice all year round;
- most regions from the tropical, sub-tropical areas and even lower parts will be too hot to inhabit;
- cities in coastal areas (around the globe) will be (largely) abandoned;

f) at a temperature rise by more than 6° C:

- methane hydrations will be released from the oceans, increasing the danger of "uncontrolled warming";
- the surface of the Earth might become similar to that of Venus, i.e. impossible to inhabit;
- the largest part of the marine life will disappear;
- over 90% of species are likely to disappear;
- the human population will be reduced dramatically, survivors will take refuge in highlands and polar regions.

B. Population growth

The world population reached 2.5 bn in 1959, amounting to 7 bn. at present (Ioniţă, 2004, p. 7).

It is estimated (UN, 2010), even if the natural birth rate decreased all over the world, that by *2100*, the population of the Earth average *10.12/15.80 bn.* (depending on estimates).

If until now the population growth has been felt especially in developed and developing countries, in the following years, according to estimates, (Ioniţă,

2010, p. 9), the demographic boom will occur in developing countries, which are already overpopulated.

The population growth will trigger (Brown et al., 2000, p. 27-81) a series of other unhappy consequences:

a) the reduction of agricultural land per capita

The agricultural land per capita has diminished during the last century from 0.24 to 0.12 ha. and by 2050 it will further diminish to 0.08 ha. (Ioniţă, 2007, p. 9); this reduction threatens food supply.

The uncontrolled growth of the population in some countries (Ethiopia, Nigeria and Pakistan) makes that the area of tillable land per capita be even smaller than the global average; in Pakistan, for instance, by 2050, the agricultural land per capita will drop to 0.04 ha.

b) the reduction of ocean fish resources

Ocean fish remained the main source of animal protein in the diet of inhabitants from insular countries and those with large coastal lines.

Due to the 5 time increase of ocean fish harvest during the last 50 years, from 19 mil. (in 1950) to 93 mil. t. (in 1997), the resources have dramatically dropped.

It is estimated (Ioniţă, 2010, p. 10) that oceans cannot supply an annual harvest bigger than 95 mil. t. and given the population growth, the amount per capita will be smaller and smaller.

c) the reduction of forested areas

Forested areas are the "green lungs" of Earth.

During the last 50 years, the dramatic reduction of these areas has been felt especially in developing countries.

It is estimated (Ioniţă, 2004, p. 9) that this reduction will continue, from 0.56 ha. (at present) to 0.38 ha. (in 2050), because of the population growth, the transformation into agricultural land and the excess of sustainable production of wood products.

d) the reduction of underwater levels

Irrigation at a pace exceeding natural recharging (through rain and snow melting) has led to the reduction of the underwater level; for instance, the over pumping of water in basins of India, China, North Africa, Saudi Arabia and the USA exceeds 160 mil. t. a year.

The situation is critical in two countries (Ioniţă, 2010, p. 10):

- India, where the population tripled (since 1980) and water consumption reached double the volume of the sustainable underwater production; this situation may trigger a decrease of the grain harvest by up to ¼ and implicitly

the increase of deaths due to starvation, considering that the population grows by 18 mil./year and ½ of the children are poorly fed and underweight;

- China, which has had an economic growth by 4 times (starting with 1980), its water consumption exceeding by far the level of sustainable production of recharging water basins; the underwater level dropped by 1.6 m. in China's northern plain which provides over 40% of the grain harvest, being able to determine grain imports that would destabilize global grain markets.

C. The disappearance of vegetal and animal species

The only (maybe) irreversible trend, the disappearance of vegetal and animal species, is caused by the alteration or destruction of their habitat, but also by irrational exploitation.

Under the circumstances, this problem cannot be ignored, since there is the risk that the entire ecosystem may collapse because of the destruction of local ecosystems.

According to an international analysis (IUCN, 2010), from the 359,297 vegetal species which are monitored, approximately 8,600 are endangered, and from the 1,368,089 species of animals that are monitored, almost 9,400 are endangered.

1.2. Environment protection, an essential issue

The future threats referring to the environment which were (partly) presented above, do not represent, by themselves, the most dangerous problem, but our perception on them does, since most people are not fully aware of their seriousness (Ioniţă, 2004, p. 11).

One may not claim that there is no degree of uncertainty on the complex problems which generate the current environmental crisis and that it would be necessary to have a careful study, since it is highly easy to exaggerate this uncertainty.

However, researchers have to answer issues which seem unnervingly "easy" at first sight, but which are real "mysteries" for science when considered globally (when, where, how much does it rain? How moist or dry is the soil? How will the surface of the Earth be modified?), as well as more "complicated" issues (What amount of ice will melt in the Arctic Ocean?); the answer to these problems is directly related to the degree of responsibility with which the threat is considered (Gore, 1995, p. 41).

It seems that man himself is the most serious threat, since he is personally responsible for creating the issue of omnipresent pollution, a real threat for his existence as an individual and as a species (Ioniţă, 2010, p. 16).

The current environmental crisis is nothing else but the result of irresponsible human activities with negative consequences on ecosystems, tending towards and even managing to undermine nature's self-regulating capacity (Commoner, 1980, p. 123-125).

Maintaining the complexity of interactions in their own dynamics is the fundamental condition for observing the relative stability of natural ecosystems (Ioniţă, 2010, p. 15).

The more important the modification or damage of environmental factors, the weakest the temporary balance of the society-man-nature system; but in the real, and often simulated, conflict between man and nature, man can decide on the protection and preservation of nature (Sion, 1990, p. 26).

As presented in the field literature (Okita, 1992, p. 155), "the environment is the basic factor for man's survival, and humankind prosperity on the long term is unconceivable if we are not able to ensure for future generations the opportunity to fully enjoy the benefits of nature".

2. Economic crisis

The economic crisis is a situation in which the economy of a country is suddenly faced with a decrease of its power brought about by a financial crisis. An economy that goes through a crisis will most certainly experience a GDP reduction, a volatility of liquidities and an increase/decrease of prices because of inflation/deflation. Economic crises can take the form of a stagflation, recession or economic depression and sometimes they may even lead to economic collapse (Crisis dictionary).

2.1. Economic growth and cycles

Theory (modem economic theories) rejects the idea that these economic-financial crises may be anticipated and, in this context, the possibility to minimize their negative effects; each economic-financial crisis is deemed unique, being generated by specific factors, in a given social, economic and political context.

In practice, it was proven that although economic-financial crises do not occur and do not bear effects within identical parameters, they are closely related to the cyclic nature of economic processes.

Economic cycles, regardless of term (short, medium or long), have two stages, expansion and recession.

In the expansion stage there is an increase of economic efficiency, generated by the introduction in the economic circuit of significant technological innovations, whereas during the recession stage there is a weakening of factors that produced the economic boost (Florescu, 2009).

Short-term economic cycles, with duration between 10 and 40 months, and long-term economic cycles, with duration between 40 and 60 years end in a period of recession which is characterized by a slow down of economic growth.

Medium-term economic cycles also called business cycles, with duration of 4-6 years, up to 10-12 years end in periods of crisis, characterized by the dramatic decrease of demand, production, labor force occupancy, gross domestic product, liquidity and living standard.

The current financial crisis which began in the United States in 2007, ten years after the last important financial crisis of South-Eastern Asia, which affected Thailand, Indonesia, Hong - Kong, South Korea.

We may claim that it is, on the one hand, a medium-term economic cycle and, on the other hand, the end of a long-term economic cycle.

This crisis seems to be more painful than the economic crisis of the 80s and, maybe, the most dramatic consequence it generates is the strengthening of the power of the state and the decrease of the power of the private sector (Isărescu, 2009, p. 1).

2.2. Effects of the economic crisis on developing countries

According to experts (Lin, 2008, p. 11-13), the following are among the effects of the economic crisis over developing countries:

- substantial reduction of exports
- reduction of main external sources of investment funds
- interest growth
- reduction of consumption goods and industrial products
- increase of the current account deficit
- investment decrease
- increase of the deflation risk
- GDP decrease
- collapse of the domestic market

2.3. Errors to avoid in the future

Specialists (Cerna, 2009, p. 4, 8) draw the attention that, in the immediately following period, certain errors should be avoided

A. At global level:

- returning to "leftist fundamentalism", neglecting economic lawfulness, "everything which is not explicitly permitted, is forbidden";
- preservation of "right fundamentalism and imposing profits as the only valid purpose;

- poor management of irrational frenzy and irrational pessimism – insufficient economic education of the public and political decision-makers of central banks

B. At European level:

- the "death" of financial capitalism of the British type;
- returning to controls of capital movements and national protectionist policies;
- Europe as a new leader of world economy, instead of the USA.

C. In Romania's case

- preserving the model of economic growth based on consumption;
- continuing to develop through foreign resources rather than through domestic economies;
- the myth of the "fortress under siege" or why foreign countries are "unfair" to Romania;

4. Ecologic crisis and economic crisis

One may claim that this economic crisis created the favorable conditions for the next period of recession of the world economy (which may take the form of stagflation) and will be strongly felt in developed countries.

This period of slow economic development is welcome for the protection of natural resources and the environment in general.

The serious contradictions which are currently visible occurred as a result of the lack of correlation between the limited level of (renewable and non renewable) resources of the Earth and the increasingly high level of human consumption, in the context of the demographic boom, technical and scientific revolution and the desire to raise the living standards regardless of costs.

Maybe we will stop and realize that we are the creation and creators of our own environment, which ensures our physical existence and gives us the opportunity of intellectual, moral, social and spiritual development.

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