

Chapter 6

Aggressions of the Socio– Economic System on the Natural Capital

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ABSTRACT

Nearly 250 million years ago, the Earth was shaken by the amplest extinction known so far, which led to the extinction of up to 96% of all the marine species, 70% of the vertebrate species, and almost all the insects. This extinction affected the whole range of biodiversity so much. Nature took almost 10 million years to recover after this event. Life was really in danger on our planet at that moment, due to the dismal conditions that were created, and the current research shows that these dire conditions continued to occur, in the natural environment, after that, triggering numerous outbreaks that occurred for five to six million years following the initial crisis, triggered by the carbon rise and the repeated shortages of oxygen, the increased warming and other such adverse effects, which, once initiated, were uncontrollable and had disastrous effects. When life returned to normal and, gradually, after several million years, a new beginning was possible, the significant elements that caused the disaster - global warming, acid rain - sound strangely familiar to us today.

MAN'S BELONGING TO NATURE

In time, for a very long period, nature in general, but especially forests, have been considered empty areas, some even hostile, which could become valuable only when the trees were turned into timber and/or the land freed (evidently, deforested) acquired a deforested land, acquired an agricultural use, or settlements or infrastructure elements were built on it.

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Human perception and attitude to nature and its components is a key element for understanding the relations between nature, mankind and culture. This perception, aware or not, guides the attitude, the actions and the ecological footprint of different individuals, groups or cultures, on the environment in general and especially on nature. Yet, at the same time, this perception has consequences on man himself, directly influencing his mental and physical health.

Unfortunately, often science and, on these grounds, also education, tend to intellectualize, in the sense of complicating, the feeling of nature and implicitly man's relation to nature.

The genetic information related to man's ancestral belonging to nature comes back intuitively or culturally and produces feelings, often contradictory ones, in the relations between man and nature and even in relation to human naturalness.

It is almost unanimously acknowledged that the increase of the human population, accompanied by the growth of the needs for goods and services of the members of the different communities are the main drives of the human society's development, which determined the diversification, the improvement and the increased capacity of the means and technologies of access and use of the resources and services provided by the natural systems.

The concept of structural unity between biocenosis and the physical and chemical components of the area it occupies anticipated and actually substantiated the concept of "organization" in a given space, which is much more comprehensive and constitutes the backbone of the ecology theory. In this way, it has been possible to integrate the study of the populations in the study of the ecosystems - basic productive units.

The research carried out on the energetics of the ecosystems and, implicitly, on the energetics of the natural populations, highlighted the need to research the circulation of the mineral elements and, first of all, of carbon, nitrogen and phosphorus, to be able to explain the primary output dynamics.

From this new perspective, the bioindividuals, the populations or the species, interconnected in biocenoses, and also the structural entities resulting from their interaction with the abiotic environment, become integrated units, functioning based on cybernetic principles and self-regulable (Popescu C., 2008).

PRODUCTIVE CAPACITY AND CARRYING CAPACITY

This conceptual progress permitted to investigate and know the productive and carrying capacity of ecosystems or ecosystems complexes. Errors have also been committed, like those of the period 1960-1985, when, without a sufficiently consolidated basis, a series of sub disciplines were differentiated, such as: ecophysiology, ecotoxicology, biochemical ecology, biophysical ecology, agroecology, urban ecology, human ecology etc., which, operating each with many, often conflicting concepts, created confusions, undermining the coherence and credibility of ecology as a science.

During the same period, the theoretical basis of ecology was consolidated and completed with dynamic systems mathematics, attaining during the last two decennia of the 20th century the systemic conception that gave ecology the force and means necessary to perceive and interpret the physical and biological environment as a hierarchy of complex ecosystems, dynamically influencing one another. At the same time, the passage from the analytical method to systemic analysis allows identifying ecological systems as real entities and identifying, at the same time, ways of investigating them and of describing their behavior.

Systemic analysis supposes an integrated holistic approach both in the research and especially in the management of natural ecological systems and of those dominated by the human species.

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