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PURPOSE AND ORIGIN OF ENVIRONMENTAL SCIENCE

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ANNOTATION
Dear reader, this article provides information about the origin, directions of Environmental Science and scientists who have made scientific research by contributing to its origin.

Keywords: ecology, science, ecosystem.

It is a science that studies the relationship between living things and their environment. This can be summarized in the concept. However, this is one of the most complex and complete branches of science . The definition of ecology may be very simple, but the object of study is very complex. In other words, it is the environment that affects its distribution, abundance, biodiversity, behavior and all the interactions that exist between different species and occur in the environment. aimed at studying how it affects possible modifications.

As you might expect, these learning objectives are very complex because they have great dynamics. Sustainability in these concepts is something more abstract. Some environmental behaviors cannot be enumerated. The levels of study of ecology differ as follows: organisms, populations, and communities make up an ecosystem . There are some fields that focus on the study of the biosphere in general

Unlike other areas of biology that are directly related to genetics, evolution, physiology, and ecology, we have ecology as a central discipline. And the science that differs from the rest because of its focus on this approach is birth rates, death rates, immigration and how they affect the distribution of species, populations and the evolution of communities.

Researchers of this discipline

The first researcher with ecology was Haeckel in 1869. One of the most important ecologists in history is Ramon Margalef and Eugene P. Odum . These scientists are the fathers of modern ecology. However, before ecology had its place, there were naturalists who contributed great discoveries and observations. Some of them are Count Buffon, Alexander von Humboldt, Darwin, Lamarck ...

All of natural history is full of psychologists describing the workings of the world. For practical purposes, we can say that ecology seeks to explain the complete functioning of nature as a whole.

Differences between ecology and environmentalism

One of the main aspects that are often confused in modern society is ecology and environmentalism. The environmental movement is more a philosophy of life than a science. This

constant confusion in the media and in everyday language creates some problems in scientific communication. Therefore, it is important to be clear about what ecology is and its study as a science, and that it does not involve any biology, but is based on the scientific method.

There are some sciences that are important for the study of ecology, such as edaphology. The science that studies soil conditions and their properties to provide information about the growth potential of plants and animals. Meteorology helps to know the distribution of temperature and precipitation to better understand the climate of the region. On the other hand, ecology needs disciplines such as mathematics and statistics to model community and population behavior.

All this shows that ecology is a very complex science that needs to be nourished by other sciences in order to provide an explanation. However, environmentalism is an ideology about respect or nature , reducing the impact on the environment as a result of actions that are degraded , etc. It is an effort to reduce human impact on the ecosystem. It also strives to preserve natural resources so that future generations can use the resources we know today.

Ecology is the study of the relationship between living things and the physical environment in which they live. It also studies the interactions of different species. We can say that within the environment in which species live, we distinguish between physical factors and biological factors. Physical factors include temperature, sunlight, humidity, etc. Biological factors are interactions with other species living in the same environment. For example, we can refer to the relationship between imprinted predators as a biological factor.

He appearance of humans on Earth has fundamentally changed the relationship between the organic world and the natural environment. Man affects nature due to improper use of pastures by means of labor tools. He continues to improve his methods of interaction with nature. As a result, the area where a person can live expands, the number and size of natural elements used increases, and consequently, the pressure of a person on nature increases both in terms of quality and volume. In order to live and work, man creates an artificial environment in addition to the natural environment. With the development of Mac, cities, residential buildings, parks, reservoirs, roads and other productive forces, with the progress of science and technology, the importance of natural resources, the areas where they are used, the forms of their use also change. In the past, several different chemical elements were used, but now all available elements are used. At the same time, most minerals are being mined more and more. Anthropogenic landscapes are increasing due to increasing human influence on nature. From the end of the 16th century to the 70s of the 20th century, 250 species and subspecies of vertebrates completely disappeared due to unplanned use of fauna and flora or other reasons related to human activity. Since the 1980s, an average of 1 animal species and about 50 plant species have been disappearing every year. More than 1,000 species of birds and mammals are on the verge of extinction. During the year, 1 billion tons of fuel are burned, hundreds of millions of tons of nitrogen oxides, sulfur, carbon, soot, dust, etc. are removed. Soil and water are polluted by industrial and household waste (several billion tons), oil products (several million tons), mineral fertilizers (about one hundred million tons), heavy metals, and radioactive waste.

Man uses natural conditions and resources for many purposes. At the same time, this requires proper protection of nature. These are: economy, health care and hygiene, refinement (aesthetic), tourism, scientific and educational use. Purposeful use means the use of natural resources for the benefit of the country or the entire humanity. This means working for the interests of the current and future

generations. Only a society that can plan its development for a long period of time on a scientific basis and can use it without changing the natural balance will achieve progress.

Knowledge of the laws of interdependence and development of processes occurring in nature is of great importance for the rational use of natural resources. Without it, it is impossible to evaluate natural processes, to take them into account, to predict the future consequences of any impact on nature, components of nature. There are basically 5 laws that a person needs to know and follow in his activities when using and influencing nature: 1) all components and elements in nature are interconnected, interact, are in a certain balance and create harmony. If any component or element changes, a change occurs in the whole natural complex; 2) there is a continuous circulation of matter and energy in nature. It is the basis of life; 3) there are certain periodicities in the development of natural processes (daily, annual, 12-year, 33-35-year and multi-year); 4) zoning; 5) regionalism.

Exchanges in the flow of energy and matter in ecosystems are also the goal of studying ecology. Other aspects that ecology studies are biogeochemical cycles, trophic chains, or ecosystem formation and productivity. All these goals are combined at different levels of education. Let's analyze what they are:

- Organismal Level : Ecology studies how the physical and biotic environment affects individuals.
- At the population level: ecology focuses on the presence or absence of certain species. It also analyzes abundance and scarcity and how species numbers change over time. For this you need mathematical and statistical models.
- At the community level : examines the composition and structure of communities and thus their functioning. Variables such as the movement of energy through streams and the contribution of nutrients and other chemical products through communities are emphasized here. Communities can be studied by observing populations and applying their characteristics conveniently.

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