
ECOLOGY, ENVIRONMENT, POLLUTION AND CLIMATE CHANGE IN REPUBLIC OF NORTH MACEDONIA

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Abstract: Ecology - the science of the relations among living organisms and the environment where they live - is a rather new scientific discipline that has gone through an extraordinarily intensive development in the 20th century, all the way to a multidisciplinary science whose local point also entrails human and all human's activities and the products thereof, in recent times. The aforesaid rapid development of ecology owes to the identically rapid growth of human society in the past century, which brought about drastic and far - reaching changes to biosphere. The task of ecology remains to be the explanation of the newly-occured relationships in the environment.

The interest in ecology from a scientific and expert aspect is great in our country, too. In that sense, a considerable number of individual researchers and institutions have played an important role in the development of ecology in Macedonia.

The survival of humanity depends on natural resources, so we must know how much we use them now and how much we should use them in the future.

In this paper , special attention was devoted to considerations relating to one of the broadest of applied sustainability indicators- ecological footprint , which indicates the relationship between human demands and generative capacity of the biosphere.

Keywords: Ecology,Environment, Pollution, Climate change, Atmosphere

1. INTRODUCTION

From the earliest days of human civilization, man built his relationship with nature with anthropocentrism, setting himself in the "center of the world" and counting as a superior part of nature, owning all of its resources. With the development of humanity, human needs and demands for nature and its richness grew and grew. The pollution of soil, water and air, the loss of plant and animal species, global warming and nuclear threats are things that must not be ignored and ignored. More common are the warnings of scientists and experts that modern society must understand the dangers of the state of the environment, that is, the fact that the primordial and unpolluted environment is less, while the one that is endangered, degraded and devastated is more present.

The endangerment of the ecological balance resulting from human activity, the appropriation of nature by man and the production of products, does not only lead to endangering the ecological balance and ecosystems, but also to endangering the integrity of man and his survival.

Human activities for improving the conditions of life and work , disrupted the ecological balance , i.e correlation and harmonious interaction and interdependence of the human being and his natural environment. Modern society is often called “risk society” , because the development of science and technology and it's implementation has significantly increase the number of risks and hazards. While the ecological balance in today's planetary constellation results in such a condition that there is a threat to basic resource necessary for sustaining life and human functioning.

2. ENVIRONMENTAL PROBLEMS IN REPUBLIC OF NORTH MACEDONIA

Environmental problems in the RNM are similar to those in other counties in the region. Based on the need for change and sustainability, the policy of sustainable environment relies on the following principles:

-Environmental goals may be achieved only if the protection of the environment integrates areas that cause damage to the environment;

-Protection of the environment has to be founded on shared responsibility, because agreed measures can be fulfilled only with full cooperation among stakeholders;

-Promotion of the environment assumes application of mechanisms and instruments for its protection, as well as encouragement of voluntary approach based on the awareness of daily requirements for active care for the environment.

Having recognized the above facts, the Republic of North Macedonia has expressed its readiness by solving the environmental problems on its own territory to contribute to the mitigation and solving the global environmental

problems and thus to justify its place in the European Union and improve the quality of life its citizens.

3. BASIC WEAKNESSES IN SOLVING THE ENVIRONMENTAL PROBLEMS.

Numerous problems, identified through different projects, studies and analyses, can be grouped according to the environmental media and areas of their appearance:

-Problems with the waste management-principal, industrial, hazardous, non-hazardous, radioactive and other types of waste;

-Problems with the water management including water resources pollution and absence of integrated effluent water treatment on the whole territory of the country;

-Air pollution, with different intensity in different parts of the country;

-Soil contamination, resulting in contamination of agricultural products with inadequate quality that originate from the areas with contaminated soils.

Particular problem that applies to all environmental monitoring system, with emphasis on the absence of historical data, based on which the status of the condition of the media would be determined accurately and actions would be taken towards their progressive mitigation and elimination. The problems get more severe because of absence of clear allocation of responsibilities between the numerous involved bodies, absence of functional connection between the local and the national level. Lack of complete and accurate data regarding the polluting substances and pollutants, problems solving, especially in the areas of water resources management and waste management to finances the needed upgrading of the infrastructure in these areas, result in further slowing down of the processes for setting up efficient system for environment protection in the Republic of North Macedonia.

4. MEASURES FOR OVERCOMING THE WEAKNESS IN SOLVING THE PROBLEMS IN THE ENVIRONMENT

The on-going decentralisation process requires facilitate the process of allocation of the responsibilities from central to local level, to enhance the local self-government capacities for implementation of the new responsibilities, as well as to build up strong relation between the central and the local government. The importance of these issues is additionally confirmed by the important process of securing stable progress towards harmonisation with the EU legislation and adequate implementation of the national legislation.

Republic of North Macedonia will continue to address the challenges in the EU approximation pointing out the need for overall strengthening of the national system for environmental management and central and Local Levels, in order to accelerate the harmonization of the National Legislation of the European Union. In that regard, major efforts are necessary in securing adequate strategic base for implementation of the Legislation, as well as for building the capacity and institutional structures needed to speed up the identification process, preparation and implementation of programmes and projects in Line with the requirements for multilateral and bilateral support.

5. THE INFLUENCE OF THE TRASH IN THE ENVIRONMENT

Most of the waste that man creates in the environment in which they live has a biological origin, i.e. in their composition have organic matter. Food waste and materials for its packaging and storage, clothing and various material goods with which the person regulates their habitat are taken daily from homes in the form of solid and liquid wastes. The composition and quantity of solid waste depends on several factors: the standard of living, the location of the settlement, the time of year and other factors. Multiple landfills have been constructed for municipal waste in the RSM. The only modern landfill in the city of Skopje is Drisla, which is well designed. The remaining landfills do not meet environmental standards, which are a potential hazard to the environment. Most often they are built on alluvial or karst soil, which poses a risk of contamination of groundwater by migration of soluble constituents. In order to preserve the environment it is necessary to dispose the disposition of waste matter hygienically, to construct sanitary landfills and wastewater treatment systems that will prevent degradation of surface and wastewater. Global increased industrial production, increased global and domestic consumption, and increasing population has led to increased consumption of resources and energy, which directly leads to the emission of large amounts of harmful gases that degrade and destroy the working and living environment. Emissions from industry is one of the biggest polluters of the working environment or the ambient air in the country given that most industries have not set filters for purification of gasses before they are emitted into the air. The most industries have been applied old and inefficient production technology with low production level on the one hand and on the other there is no proper monitoring equipment for gases that emitted into the atmosphere and presents a major cause of air pollution. This problem is particularly pronounced in the metallurgical and chemical industries. This paper presents the result of personal exposure to certain gases (CO, NO₂ and SO₂) on employers in metallurgy.

One of the measures for the protection of the working environment is a set of filters to major industrial, and smaller to make at least primary treatment of exhaust gases before they are emitted into the air.

6. ECOSYSTEM

It is commonly known that the term ‘ecosystem’ represents natural unity of live organisms and non-live substance on certain defined area. However, in the context of wider territory we can meet various categories of ecosystems according to their characteristics.

Securing the basic human right to live in clean and healthy environment, is one of the main goals of Republic of North Macedonia on the way towards ensuring a safe position for its citizens within European frames. Proper management of the abundant natural resources, especially fresh waters, as well as biological and landscape diversity, provides an exceptional opportunity for development of high quality life of present and future generations. The establishment of sustainable development remains a strategic approach on the way towards economic growth in parallel with social improvement and environmental protection. Republic of North Macedonia has traced its way through resolution of environmental problems on its own territory, thus endeavouring to contribute to the mitigation and resolution of global environment problems and fulfilling at the same time the obligation it has undertaken under the signed international agreements.

7. CONCLUSION

The concept for sustainable development is aimed towards rational use of the natural land resources based on sustainable grounds and use of those resources up to a point that will allow their reproduction. The basic aim of the sustainable development is improving the quality of the environment and meeting the needs of the population in a manner that will not jeopardize the environment and will preserve the right of the future generations to live in a clean environment.

The sustainable development can remain just an idea if not placed under critical and in – depth analysis and if no means for its realization are found i.e. if not applied in the everyday life. The incorporation of the sustainable development concept in the everyday life needs to be regulated through management measures and activities for its realization i.e. to establish a global development policy containing all economic, social and political aspects and to define the instruments and measures for its proper implementation. The spatial planning, as a science revealing and defining the legal framework and the development processes, also defines the principles, the criteria, the methods, instruments and measures in the overall organization of the space and also provides incorporation of the development concept in the basic subsystems of the spatial structure – ecosphere, socio – sphere and techno – sphere. The spatial planning provides coordination of the inner connections and relations and defines the instruments and measures for implementation of the sustainable development.

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