

## REVIEW ARTICLE

# LEGAL REGULATION OF THE PROPER NATURAL ENVIRONMENTAL CONDITIONS AS AN INTEGRAL ENVIRONMENTAL HEALTH COMPONENT

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## ABSTRACT

**The aim:** To investigate the legal basis for natural environmental protection as an integral environmental health component.

**Materials and methods:** In this work we study statutory regulations and scientific positions of scholars regarding above-mentioned issue. The study analyses generalized information from scientific journals by means of scientific methods from a medical and legal perspectives. This article is based on dialectical, comparative, analytic, synthetic and comprehensive research methods. Applying systematic approach, as well as analysis and synthesis, we investigated legal regulation for proper condition of natural environment as an integral environmental health component

**Conclusions:** Maintaining proper condition of natural environment is one of the main tasks of each individual at many levels - international, national and personal. This would allow to accommodate proper human activity. It is implemented through a comprehensive approach to recognize the value of natural environment in the development and improvement of human health. In said processes it is important to define the indicators that allow us to monitor the state of the natural environment and its changes in both positive and negative directions. Defining them at the regulatory level allows for laying down benchmarks that help in ranking those changes in the study

**KEY WORDS:** health, environmental health, environmental quality indicators, environmentally responsible behaviour indicators, indicators of consumption of environmental services

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## INTRODUCTION

The vision of an ecologically sustainable society includes protection of human health, preservation of biodiversity, conservation of valuable natural and historical settings, an ecologically sustainable supply and efficient use of energy and other natural resources. In order to determine how well basic environmental quality objectives and more precise objectives are being met it is necessary to continuously monitor and evaluate the state of the environment [1, p. 9]. The environment plays a crucial role in people's physical, mental and social well-being. Despite significant improvements, major differences in environmental quality and human health remain between and within European countries. The complex relationships between environmental factors and human health, taking into account multiple pathways and interactions, should be seen in a broader spatial, socio-economic and cultural context [2, p. 91].

Human health is a value given with the birth. Its condition depends on various factors that directly or indirectly affect it, such as the health of his parents and the circumstances it was formed under, namely the environment in general and the natural environment in particular. It reflects impacts both positively and negatively. Its extension is connected to

a person's awareness of causes and effects from their actions or inaction, the state of the environment that affects them and leads to the corresponding consequences. The higher the level of awareness, the better human health.

According to the Constitution of the World Health Organization health is «a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity» [3]. The environment is important to human health. However, only in recent years science and technology have provided us with ways to measure the correlation between a healthy environment and a healthy body. The natural environment in which we spend our days and the national and international community in which environmental protections must be negotiated provide both a local and a global perspective by which to consider environmental health [4].

Therefore, environmental health often associated with environmental impact assessment [5]. Environmental health addresses all the physical, chemical, and biological factors external to a person and all the related factors impacting behaviours. It encompasses the assessment and control of those environmental factors that can potentially affect health. It is targeted towards preventing disease and creating health-sup-

portive environments. This definition excludes behaviour not related to environment as well as behaviour related to the social and cultural environment, and genetics [6]. Those aspects of human health and disease are determined by factors in the environment. It also refers to the theory and practice of assessing and controlling factors in the environment that can potentially affect health. Environmental health includes both the direct pathological effects of chemicals, radiation and some biological agents, and the effects (often indirect) on health and well-being of the broad physical, psychological, social and aesthetic environment, which includes housing, urban development, land use and transport [7]. Environmental health is the science and practice of preventing human injury and illness and promoting well-being by – identifying and evaluating environmental sources and hazardous agents and – limiting exposures to hazardous physical, chemical, and biological agents in air, water, soil, food, and other environmental media or settings that may adversely affect human health [8]. Environmental health indicators, based on proven cause-effect relationships, serve as important tools for identifying potential risks to human health and for policy making [9]. As drawn from vocabulary sources, environmental health indicators – are indicators that describe the link between environment and health by measuring the health effect due to exposure to one or several environmental hazards [10, p. 29].

Thus, analysing these concepts we can conclude that human health is directly or indirectly affected by a variety of factors that have a certain nature of origin, although their direct effect occurs within the natural environment. Various authors [11-17] carried out study on the influence of individual aspects on human health. Those works reflected relevant provisions of such influence. The natural environment, commonly referred to simply as the environment, is a term that encompasses all living and non-living things occurring naturally on Earth or some region thereof [18]. The natural environment is the thin layer of life and life support called the biosphere, that contains the earth's air, soil, water, and living organisms [19].

All other components of environmental health depend on its proper status, so studying the requirements that provide certain conditions for maintaining and improving human health is essential. According to p. 25 of Preamble to Decision No 1386/2013/EU of the European Parliament and of the Council of 20 November 2013 on a General Union Environment Action Programme to 2020 'Living well, within the limits of our planet' [20]: environmental problems and impacts continue to pose significant risks for human health and well-being, whereas measures to improve the state of the environment can be beneficial.

## THE AIM

To investigate the legal basis for natural environmental protection as an integral environmental health component.

## MATERIALS AND METHODS

In this work we study statutory regulations and scientific positions of scholars regarding above-mentioned issue.

The study analyses generalized information from scientific journals by means of scientific methods from a medical and legal perspectives. This article is based on dialectical, comparative, analytic, synthetic and comprehensive research methods. Applying systematic approach, as well as analysis and synthesis, we investigated legal regulation for proper condition of natural environment as an integral environmental health component

## REVIEW AND DISCUSSION

The connection between protecting the natural environment and safeguarding human health has been recognized for some time. The effect of various environmental exposures, such as toxic chemicals, air pollution, and biological agents on the human body, is commonly perceived as the central problem in environmental health. However, maintaining a healthy environment extends beyond controlling these hazards [19].

Therefore, by tracking and analysing such interdependency, one can understand the cause and effect relationships between negative factors that cause damage, first and foremost, to the natural environment, which is a human habitat, and affects human health accordingly, through its deterioration, which can manifest in diseases of various severity. The environment directly affects health status and plays a major role in quality of life, years of healthy life lived, and health disparities [21]. The degradation of the environment, through air pollution, noise, chemicals, poor quality water and loss of natural areas, combined with lifestyle changes, may be contributing to substantial increases in rates of obesity, diabetes, diseases of the cardiovascular and nervous systems and cancer – all of which are major public health problems for Europe's population [22].

An even more direct connection between the environment and health is the potential enhancement of our physical, mental, and social well-being through our daily exposure to the natural environment [19]. The contact with the natural the world – with animals, plants, landscapes and desert – can offer health benefits [23, p. 238]. Ergo, improvement of the natural environment conditions has a positive impact on human health. The natural environment, broadly conceived, can also enhance health, for example, many pharmaceuticals are derived from plants and animals providing a compelling argument for preserving biodiversity. In addition, contact with the natural world may be directly beneficial to health [24].

Environmental quality, air quality, soil quality, and water quality, are defined as measures of the condition or state of each relative to the requirements of one or more biotic species and/or to any human need or purpose [25]. Environmental quality is a state of environmental conditions in environmental media, expressed in terms of indicators or indices related to environmental quality standards [26, p. 30].

The quality of natural environment is determined by certain indicators, based on which one can speak about good or, conversely, bad quality of natural environment for human life and health. Environmental quality criterion –

criteria followed in establishing standards for exposure to pollutants and noise, in respect of pesticides, detergents, composition of effluents, discharge of trade wastes, etc. [27]. As noted at the theoretical level [28, p. 11] in the analysis of relevant sources [29] the most important natural environment indicators relevant to quality of life would inform about quality of several environmental media (soil, water, air), on people access to environmental services and amenities and environmentally responsible behaviour as well. In addition, the criteria that characterize the state of the natural environment, which in one way or another affect human health, are defined as: environmental quality indicators, environmentally responsible behaviour indicators and indicators of consumption of environmental services [28, p. 17]. These groups are related because responsible behaviour has a positive impact on environmental quality, which leads to higher consumption of services provided by the environment [30].

Let's analyse these components in the context of the concept in hand. Firstly, we should pay attention to the environmental quality indicators. Environmental quality indicators are used to assess the environment's capacity for supporting human and ecological health [31, p. 173]. As noted at the theoretical level, the environmental quality indicators encompass some environmental mediums (such as soil, water, air and waste) [30]. Among outlined criteria we should pay a particular attention to those related to the corresponding condition of natural objects, along with other factors, can both positively and negatively affect human health. These include indicators that characterize such environmental components as land, water and air. Undoubtedly, each of these natural resources, and namely the compliance of their condition with the requirements of environmental safety, is important both in the development and maintenance of human health. Water quality and air pollution levels are still problematic in many parts of Europe, and Union citizens continue to be exposed to hazardous substances, potentially compromising their health and well-being. Unsustainable land use is consuming fertile soils, and soil degradation continues, resulting in impacts on global food security and the achievement of biodiversity targets (p. 6 Annex The 7th Environment Action Programme to 2020 'Living well, within the limits of our planet' [20]).

When examining the nature of these indicators, it would also be appropriate to pay attention to environmental quality standards, defined in sources as limit for environmental disturbances, from ambient concentration of pollutants and wastes, that determines the maximum allowable degradation of environmental media [26, p. 30]. According to clause 6, part 1, Article 3 Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) [32]: 'environmental quality standards' means the set of requirements which must be fulfilled at a given time by a given environment or particular part thereof, as set out in Union law. Their recognition and compliance ensures the proper condition of the natural environment

in particular and contributes to the general development of such natural environment where environmental quality indicators are factored in. For instance, regarding water «environmental quality standard» means the concentration of a particular pollutant or group of pollutants in water, sediment or biota which should not be exceeded in order to protect human health and the environment (Clause 35, Part 1, Article 2 Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy [33]).

The vocabulary source states that the term air quality standards refer to levels of air pollutants prescribed by regulations that may not be exceeded during a specified time in a defined area [34]. In p. 9 of Preamble to Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe [35] it is noted that air quality status should be maintained where it is already good or improved. Where the objectives for ambient air quality laid down in this Directive are not met, Member States should act in order to comply with the limit values and critical levels, and where possible, to attain the target values and long-term objectives. Moreover, this Directive states that «level» shall mean the concentration of a pollutant in ambient air or the deposition thereof on surfaces in a given time (Clause 3, Part 1, Article 2) and «limit value» shall mean a level fixed on the basis of scientific knowledge, with the aim of avoiding, preventing or reducing harmful effects on human health and/or the environment as a whole, to be attained within a given period and not to be exceeded once attained (Clause 5, Part 1, Article 2).

At the theoretical level it is stated that soil quality "the capacity of a soil to function within ecosystem and land-use boundaries to sustain biological productivity, maintain environmental quality, and promote plant and animal health" [36]. Soil quality is an account of the ability of soil to provide ecosystem and society services through its capacities to perform its functions and respond to external influences [37, p. 12]. Soil parameters indicate the state of soil ecosystem characteristics, which especially reflect production, buffering, filter and other soil functions [38]. "Soil quality standards", i.e. maximum permissible total concentrations of pollutants in soils [39, p. 789]. In other words, compliance with the requirements that are benchmarks in maintaining the proper quality of the soil is important. Thus according to para. 2 paragraph 2.1 of Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions – Thematic Strategy for Soil Protection [40]: soil degradation has a direct impact on water and air quality, biodiversity and climate change. It can also impair the health of European citizens and threaten food and feed safety.

Hence, based on the above, environmental quality indicators, being both certain indicators of quality in general and gauges of natural resources in particular are important in recognition of certain processes, which have different

nature of origin and are influenced by this origin directly or indirectly. They, along with other components, affect environmental health. Analyzing the provisions that describe the second set of indicators, which characterize condition of natural environment, while referencing scientific definitions, environmentally responsible behaviour is related to resource and energy savings, use of renewable energy sources, waste sorting and recycling, wastewater disposal etc. [41]. Ergo, these are indicators that reflect the level of awareness in certain performers about the importance of good overall treatment of the environment, and natural environment in particular. On the other hand, the indicators act as specific benchmarks of action or inactivity that would be most useful in a particular situation. According to para. 26 of the Preamble to Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment [42]: economic and other incentives to support sustainable consumer choices and promote responsible consumer behaviour can be an effective tool for achieving the objectives of this Directive. Therefore, the existence of certain means creates the preconditions for responsible environmental behaviour, which has an absolute impact on environmental health. For instance, p. 1 art. 10 of Directive 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment: member States shall take measures to inform consumers and to incentivise responsible consumer behaviour, in order to reduce litter from products covered by this Directive. Whereas consumers play a key role in the management of packaging and packaging waste and thus have to be adequately informed in order to adapt their behaviour and attitudes (the Preamble to European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste [43]), hence, one of the useful steps in implementation of proper behaviour is informing the public and providing it with the necessary information. In addition, in attempt to form environmentally responsible behaviour with regard to establishing of environmental health different technologies are crucial, in particular, namely the ones mentioned in para. (d) p. 1.3.3 part II «Industrial Leadership» of the Regulation (EU) No 1291/2013 of the European Parliament and of the Council of 11 December 2013 establishing Horizon 2020 – the Framework Programme for Research and Innovation (2014-2020) and repealing Decision No 1982/2006/EC Text with EEA relevance [44] is stated about the developing new products and applications, business models and responsible consumer behaviour that reduce energy demand and facilitate low-carbon production.

Regarding the indicators of environmentally responsible behaviour, we should include those that reflect the awareness of the need for appropriate behaviour within relationships between human and natural environment, and, in particular in the rational use of natural resources, recycling and waste re-using etc.

Consequently, by analysing environmentally responsible behavioural indicators as indicators that reflect the essence

of environmental health through awareness and internal treatment of the environment in general and the natural environment in particular, that are formed through different means of influence, it can be noted that they create an idea of the necessary behaviour.

The main indicators for the consumption of environmental services and amenities provided are selected on the basis of data provided by Eurostat. These include an index of the sufficiency of sites designated under the EU Habitats Directive, the proportion of terrestrial area protected, total fresh water abstraction per capita, inland fishery products per capita and area of forests and other wooded land per capita [30]. With reference to the vocabulary source environmental services: qualitative functions of natural non-produced assets of land, water and air (including related ecosystem) and their biota. There are three basic types of environmental services: (a) disposal services which reflect the functions of the natural environment as an absorptive sink for residuals, (b) productive services which reflect the economic functions of providing natural resource inputs and space for production and consumption and (c) consumer or consumption services which provide for physiological as well as recreational and related needs of human beings [45, p. 30].

That is, these indicators are related to the specific conditions, which provide the opportunity for proper everyday human activities in the environment that meets the necessary conditions and with the availability of certain resources.

The Union's economic prosperity and well-being is underpinned by its natural capital, i.e. its biodiversity, including ecosystems that provide essential goods and services, from fertile soil and multi-functional forests to productive land and seas, from good quality fresh water and clean air to pollination and climate regulation and protection against natural disasters (p. 17 Annex The 7th Environment Action Programme to 2020 'Living well, within the limits of our planet' [20]).

Consumption leads to the direct creation of environmental pressures from the use of products and services, for example, through driving a car or heating a house with fossil fuels. Of greater magnitude, however, are indirect pressures that are created along the production chains of the goods and services consumed, including, for example, food, clothing, furniture or electricity. Both direct and indirect pressures result in environmental impacts, in particular, global warming, biodiversity degradation, soil sealing and air and water pollution [46, p. 4].

Hence, consumption and, accordingly, its indicators depend on various factors, that are fixed both at the national level by choosing a particular vector of state's actions concerning the environment in general and natural environment in particular, and also human activity, where the certain ways in consumption are chosen on daily basis.

The promotion of more sustainable consumption patterns in the future may be achieved most effectively through the development of sophisticated tailored policy packages that provide a framework that enables consumers, retailers and producers to act more sustainably. Such packages would include well-chosen mixtures of economic incentives, pro-

vision of information to consumers through awareness-raising, labelling and other means, investments in improved infrastructure, technology support, voluntary agreements and where necessary regulation to achieve objectives as effectively as possible [46, p.8-9]. For example, regarding regulation of proper consumption, in para. 16 of the Preamble to Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products [47] it is assumed that as a general principle and where appropriate, the energy consumption of energy-related products in stand-by or off-mode should be reduced to the minimum necessary for their proper functioning.

Therefore, proper consumption is manifested in recognition of rational approaches. Those should be reflected in legislation statutes in place in order to legally support their implementation.

## CONCLUSIONS

It is hard to disagree with a point of view that was highlighted by one of the authors that each of these groups of indicators are closely interrelated. In particular, these groups of indicators are tightly interrelated as environmentally responsible behaviour has positive impact on environmental quality, and improved environmental quality provides for higher consumption of services provided by the environment [48, p. 11-12]. Undoubtedly, they intersect and thus impact the quality of life, which obviously reflects in indicators of environmental health. Observing and analysing changes in indicators within the outlined issues will allow for the better understanding of that interconnection between the natural environment quality and human health. The appropriate regulatory framework will allow to maintain and improve the natural environment.

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