

ECOLOGICAL EXPERTISE AND ENVIRONMENTAL IMPACT ASSESSMENT

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Ecological forensic expertise is becoming increasingly in demand by the legal process. Every day there are cases of environmental "disasters" all over the world, most of which are due to man-made factors. Often, human activities that have an impact on the environment are not intentional, but there are situations when this activity becomes criminal. In such cases, an important role in clarifying the circumstances of the case is played by ecological expertise - the only procedure capable of providing solutions for the court through scientific methods. The quality of justice is directly proportional to the reliability and availability of the evidence on which expert decisions are based. It is important to correctly assess the value of the forensic expert's conclusions with reference to ecological issues, based on the fact that they are founded on solid scientific support, so that the court can be sure of its decision. This is why ecological forensic expertise needs sound methodological and scientific assurance to meet the needs of forensic practice.

Keywords: *anthropogenic factor, ecology, ecological forensics, ecological balance, ecological crime.*

The intensity of the anthropogenic activity on the environment leads to the aggravation of the ecological situation: the depletion of natural resources, the pollution of the atmosphere, the worsening of the physical and health condition of the population and environment. Ecology and environmental issues are receiving increasing attention abroad and in our country [1].

The environment is a fundamental and all-encompassing notion, which means the living and the inanimate world, that is, almost everything that surrounds man. The environment and environmental factors are most affected by pollution, which can affect and damage the ecological balance.

The Republic of Moldova refers to the countries with a precarious ecological situation. Environmental pollution has reached its peak. Such a situation, together with the general nature of the national legislation in this field, highlights the lack of sufficient forensic support, adequate for the process of identification and investigation of environmental crimes.

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Crime is constantly being assessed and forensic science is paying close attention to the development of measures to combat it. The problem of criminological analysis of the factors on ecological crimes (water, soil pollution, etc.). Scientists in our country have elucidated many legal works, studied the problems of ecological crimes, more from a legal-criminal point of view and less criminological.

Environmental problems resulting from economic activity are reduced to pollution. Thus, the negative changes that occurred as a result of the evolution of economic activities have boosted the influence of criminogenic factors, generating, at the same time, the massive intensification of the phenomenon of environmental pollution [2].

Ecological forensic expertise is a type of activity in this field, consisting in the prior assessment of the natural, anthropological impact and economic accidents on the environment, the compliance of the parameters of this activity with legislative acts and other normative acts, norms and standards in force.

The rapid development of civilization in the last 20 years poses ecological challenges to all the most developed states in the world. However, the whole ecological sphere is linked to the economic, social, demographic, political, legal and, last but not least, to the scientific sphere. The complex introduction of modern approaches in the field of environmental protection is an integral part of the general objective of the government of any country to improve the quality of life of its citizens, ensuring the prosperity of the next generation [3, 4].

Knowing the situation of the ecological crisis in the Republic of Moldova, significantly due to the greater dangerous consequences of ecological crime, namely: the catastrophic deterioration of the quality of the environment, in particular, of natural resources (biotic, abiotic), which lead to reduced life expectancy, increasing the level of disease and mortality, degradation of all renewable natural resources, depletion of non-renewable natural mineral resources, pollution and deterioration of both surface and groundwater quality, atmospheric air, expansion of radioactive pollution, hazardous food pollution, degradation of flowers and fauna, etc.[5].

These pollution offenses, as criminogenic factors, must be investigated both as causes and as evidence, determined factors that lead to the adoption of a criminal conduct, as well as the conditions, as factors or circumstances that facilitate the adoption of this conduct, not being sufficient an analysis only specific pollution activity, but also a forensic analysis of these actions, manifested as a whole, lead to violations of environmental legislation.

Ecological crime is constantly changing, with consequences for socio-economic change. In the case of any other type of crime, it includes a very large number of various factors directly influenced by human activities. So, the basic role in ecological crime is played by the human-anthropological factor. Man has become able to transform, sometimes radically, his natural environment and to create for himself a civilized artificial environment with all the advantages

and possibly the disadvantages of this transformation. But man has also become a great polluter [6].

Some of the economic factors considered to have a pronounced criminogenic content on the crime of environmental pollution is industrialization and urbanization. It is undeniable that the twentieth century brought in addition to great discoveries in science and technology and a massive increase in urbanization and industrialization. Industrialization and urbanization, by themselves, are factors of economic and social progress, providing new jobs, advanced training and specialization opportunities, higher quality consumer goods and, consequently, increasing people's living standards.

An important factor in urban pollution is industry, which is a cause of the development of urban settlements. There is an interconditioning between industry and urbanism, therefore, where there is industry there is also pollution. Industry, as an economic activity, dumps industrial waste into water and soil that is harmful to both plants and animals [7.10] .

Aquatic resources and economic development are indissoluble, the former playing a key role in sustaining life, and development is what we all do to improve living standards in this environment.

Under the impact of economic development, the soil, water and air have been polluted, more or less severely, many species of fish, plants and animals have disappeared or are on the verge of extinction, and man, in turn, is facing various diseases. caused by pollution - a phenomenon that today encompasses all countries and continents.

The use of polluted water, of poor quality drinking water, leads to the appearance of diseases, the treatment of which leads to additional expenses for any family, individual person. Unsatisfactory water quality primarily affects the poorest layers. The impact of the use of various natural resources also has important links to the issue of poverty, namely, the poor have limited access to clean water and sanitation in the Republic of Moldova [8].

Currently, in the Republic of Moldova centralized water supply systems are built in 960 localities out of a total of 1,689 existing, including 903 in rural localities. In a limited number of localities (up to 50) rehabilitation works have been initiated for the centralized water supply systems, the rest of these systems are continuously degrading.

Water quality is also determined by natural and anthropogenic factors. Consumption of poor quality water, which does not meet the requirements, has a significant impact on the health of the population. In this context, we specify that on the territory of the Republic of Moldova, water pollution raises serious ecological and health problems. Virtually all surface and groundwater are polluted to a considerable extent, which contributes to the contamination of agricultural products and leaves a serious mark on human health [9].

The causes and conditions that lead to water pollution are:

- accidental spillage of residues from various factories, but also deliberate discharges of pollutants;
- leaks from oil storage tanks;
- pesticides and herbicides administered in agricultural works that move through the soil, being transported by rainwater or from irrigation to the groundwater;
- chemical fertilizers and leaks from livestock farms;
- household waste and residues;
- salt sprinkled during the winter on the stems, which is carried through the soil by rainwater and melted snow;
- deposition of pollutants in the atmosphere, acid rain.

The industrialization of agriculture, the exaggeration of specialization and chemicalization, has generated some unexpected and worrying effects on soil pollution. The production increases due to the chemical agents used tend at some point to decrease the quality of the soil, water, compromised by the accumulation of large amounts of chemicals, the respective agricultural products become harmful.

A special place in the system of polluting determinants belongs to waste management. In the national area, waste management does not have a complex legal framework, designed to provide conditions for their economic use, so as not to affect the quality of water, soil, air and public health. Currently, in the Republic of Moldova more than half of the landfills do not meet the requirements.

Waste is an important source of pollution for surface and groundwater resources. The volume of waste not only increased considerably, but also increased its harmfulness, and the period of their decomposition and integration into the environment.

A very strong source of environmental pollution is the irrational use of chemicals in agriculture in the form of mineral fertilizers and herbicides. At the same time, the changes that occurred as a result of the socio-demographic and economic crisis, the depreciation of moral and spiritual values in the current conditions of evolution of society have boosted the influence of the above-mentioned factors, generating at the same time the massive intensification of pollution.

The competence of forensic experts is an essential scientific potential and the main legal way in the fight against environmental crimes in the Republic of Moldova. The unification of the intellectual and material potential of several institutions both in the country and abroad, a joint collaboration and activity, thanks to ecological forensic expertise, allow objective and qualifying determination of the cause of anthropogenic impact, environmental pollution, solving all ecological problems in Republic of Moldova.

The task of environmental protection belongs to the whole society and is carried out in the interest of all mankind. This is seen in two ways:

- general task of discovering the damage and sources of pollution, establishing the ways to prevent, reduce and eliminate the effects of pollution;

- as a concrete shield the protection of various elements of the natural and artificial environment [11].

If we do not change our behavior now, our future will be less secure and more and more people will be fighting for dwindling natural resources. There are a number of obstacles that need to be overcome until we are able to move to a rational system. Thus, from the point of view of environmental protection, international cooperation is absolutely necessary, because only by coordinating the efforts made by the states of the world in this field, by adopting unitary norms on environmental protection and conservation, will the adequate requirements be met. It requires them to overcome and isolate the current ecological crisis and, of course, to avoid possible criminal crises.

CONCLUSIONS:

The development of human society, on the one hand, and population growth, on the other, have led to an increase in the use of renewable and non-renewable natural resources. Human activities related to the exploitation and use of these resources, in addition to progress, have also generated significant amounts of waste, polluting emissions and other variables responsible for the degradation of environmental quality. If we accept the fact that man is an entity that lives in close contact with the environment and that to a greater or lesser extent the quality of his life depends directly on the quality of the environment, then we must be aware of the importance that man must attach to protecting the environment and maintaining its quality in parameters that are as favourable as possible in order to ensure the optimum necessary for the continuation of life.

In the context of the amplification of the anthropogenic impact on the environment, forensic expertise must provide sustainable scientific support to the judicial process in order to effectively resist the criminal element in the environmental sphere.

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ԷԿՈԼՈԳԻԱԿԱՆ ՓՈՐՁԱՔՆՆՈՒԹՅՈՒՆԸ ԵՎ ՇՐՋԱԿԱ ՄԻՋԱՎԱՅՐԻ ՎՐԱ ԱԶԴԵՑՈՒԹՅԱՆ ԳՆԱՀԱՏԱԿԱՆԸ

Կարառազա Օ.Ս., Տրիֆեուցան Վ.Ն., Պետրոպիչի Պ.Պ.

Հոդվածում արծարծվում է էկոլոգիական դատական փորձաքննության թեմա, որը դատական գործընթացում ավելի շար պահանջված է դարձում վերջին տասնամյակում: Ընդգծվում է, որ աշխարհում ամեն օր տեղի են ունենում էկոլոգիական «աղետներ», որոնց մեծ մասի առաջացումը պայմանավորված է տեխնածին գործոններով: Նշվում է, որ միևնույն ժամանակ, հաճախ շրջակա միջավայրի վրա ազդեցություն թողնող մարդու գործունեությունը դիտավորություն չի համարվում, սակայն առաջանում են իրավիճակներ,

երբ տվյալ գործունեությունը կրում է հանցավոր բնույթ: Վերջինիս համար, դեպքի հանգամանքները պարզաբանելիս, առաջնային է բնապահպանական փորձաքննությունը. փորձաքննության միակ տեսակ, որը թույլ է տալիս անցկացնել օբյեկտիվ գիտականորեն հիմնավորված դատական փորձաքննություններ և փորձագիտական հետազոտություններ: Դատական փորձաքննությունների կատարման տվյալ ուղղությունը համալրվում է նաև ակնհայտ փաստի այն հավաստմամբ, որ արդարադատության իրականացման որակն ուղիղ համեմատական է այն ապացույցների հավաստիությանը, որոնց վրա հիմնված է կոնկրետ գործով ապացուցվող հանգամանքների հաստատումը:

Հողվածում խոսքը գնում է դատաէկոլոգիական փորձաքննությունների ընթացքում ձեռք բերված գործոնաբանական նյութի ճիշտ մեկնությանը, որը հետագայում պետք է հաշվի առնվի փորձագետի կողմից գործով փորձագիտական եզրակացություններ կազմելիս:

Նշվում է, որ վերոգրյալը նկատի ունենալով, ներկայումս էկոլոգիական դատական փորձաքննությունը կարիք ունի հուսալի մեթոդաբանական և գիտականորեն հիմնավորված գործիքակազմի մշակման, որը փոխգործակցություն կտրամադրի դատական էկոլոգիական փորձաքննություն նշանակելու իրավասություն ունեցող մարմիններին և անձանց:

Բանալի բառեր. մարդածին գործոն, էկոլոգիա, էկոլոգիական քրեագիտություն, էկոլոգիական հավասարակշռություն, էկոլոգիական հանցավորություն:

ЭКОЛОГИЧЕСКАЯ ЭКСПЕРТИЗА И ОЦЕНКА ВОЗДЕЙСТВИЯ НА ОКРУЖАЮЩУЮ СРЕДУ

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В статье затрагиваются вопросы экологической судебной экспертизы, которая в последние десятилетия становится все более востребованной в судебном процессе. Подчеркивается, что повседневно, в мире, происходят экологические «катастрофы», большая часть которых обусловлена техногенными факторами. Отмечается, что в то же время, зачастую, деятельность человека, оказывающая воздействие на окружающую среду, не является преднамеренной, но возникают ситуации, когда данная деятельность носит преступный характер. Для последних, при выяснении обстоятельств дела первостепенна экологическая экспертиза – единственный вид экспертизы, позволяющий провести объективные научно-обоснованные судебные экспертизы и экспертные исследования. Данное направление производства судебных экспертиз дополняется также констатацией очевидного факта, что качество

исполнения правосудия прямо пропорционально достоверности доказательств, на которых основывается установление обстоятельств, подлежащих доказыванию по конкретному делу. В статье речь идет о корректной интерпретации факторологического материала, полученного в ходе выполненных судебно-экологических экспертиз, которые в дальнейшем должны быть учтены экспертом при подготовке заключений по делу. Отмечается, что ввиду этого, экологическая судебная экспертиза, на текущий момент нуждается в разработке надежного методологического и научно-обоснованного инструментария, оказывающего содействие органами и лицам, имеющим право назначать судебно-экологические экспертизы.

Ключевые слова: антропогенный фактор, экология, экологическая криминалистика, экологический баланс, экологическая преступность.

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