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INFORMATION AS A FACTOR OF ENVIRONMENTAL MANAGEMENT AND NATURE CONSERVATION

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Abstract

The article analyzes environmental information as a method of environmental management among a set of administrative, economic, socio-psychological and other methods. The research is exemplified with the mountainous territory North Ossetia-Alania (further NO-Alania). We have revealed the conditions under which this method is effective and contributes to improvement of the environment. Environmental information can be used as a method under the following conditions: availability of an information-communicative space in the NO-Alania, which meets the modern trends of its development, including the functioning of network segment expanding the flows of environmental information and making it more accessible to the audience; structuring of the information-communicative space, including the servers of state and information agencies, electronic versions of print mass media, environmental e-publications, websites of public organizations, blogs, social networks and other new platforms such as Telegram and YouTube; availability of both mass and special scientific information on environmental issues purposefully presented in the NO-Alania scientific journal "Sustainable development of mountain territories"; a wide range of environmental topics within the scope of scientific journalism, which develop both traditional and network media; feedback on state information resources, media resources and entrepreneurs' projects developed in the NO-Alania in recent years. We come to the conclusion that these conditions allow for the effectiveness of environmental information as a method of environmental management and nature conservation.

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Keywords: Environmental management, North Ossetia, preservation, mass media.



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1. Introduction

Formation of ecology as a scientific social knowledge, which includes rational nature use and nature protection, should be regarded as response to the current challenges. It is the basic component of the theory of sustainable development of territories, including mountain ones. Academician Moiseev (1995), who was the first to endow highly specialized scientific knowledge with the status of mass and social one, wrote: "Humankind is facing the need to rethink its deepest worldview foundations, its place in nature, relationship with others, and the civilizational paradigm as a whole" (p. 74).

Our society is slowly moving toward such kind of rethinking. As a consequence, we start to realize the importance of understanding our place in the nature and the results of our activities, which should be adjusted to environmentally friendly mode of nature conservation and restoration. These issues are the target of most environmental programs on rational nature use that get promoted in the regions.

For example, the state program on "Environmental protection, environmental safety and welfare of the Republic of North Ossetia-Alania" for 2014–2020 (as amended on 19 December 2017) has been adopted in the Republic of North Ossetia-Alania. It focuses on environmental management and the quality of the environment, life safety in industrialized areas, the impact of mining on the formation of landscapes and other vulnerable territories of the region.

2. Problem Statement

Solution of the tasks outlined in the program is possible only if the forms and methods of environmental management and environment quality are improved. At the same time, most researchers of environmental management focus on legal or regulatory support, as well as administrative, economic and financial mechanisms, licensing, environmental certification, environmental audit, environmental monitoring. Socio-psychological methods, or the methods of moral stimulation are also taken into account. According to some researchers, they are implemented through both incentive and corrective measures.

However, much lesser attention is paid to information methods, which are actually based on monitoring over condition of the environment. Cadastral registration of natural resources is also included in the range of information methods. Openness of environmental information is an important element of information methods.

However, access to data on the environmental condition of any territory is a controversial issue at both the federal and regional levels. As a result, population's unawareness of major regional and global changes in environmental management that have occurred in recent years is a significant obstacle to solving these problems (Kokhanova, 1997).

3. Research Questions

Therefore, the research object at this stage is represented with the information-communicative process of formation of mass environmental consciousness in the regions, which contributes to a higher level of the population's awareness of environmental management and protection activities in the NO-Alania.

4. Purpose of the Study

The choice of this region is conditioned by the following facts. Firstly, as Samoylova (1999) points out, 43 out of 89 regions of the Russian Federation have mountain structures. The area of these regions occupies 85.5 % of the total area of Russia, with mountains accounting for 63 % of the area, i.e. 53.6 % of the Russian territory is mountainous.

Secondly, according to Makoev (2009), the North Caucasus is the only region in the European part of Russia that most fully meets all the "textbook criteria" of mountainous countries: height and roughness of the relief, landscape-climatic and ethno-cultural diversity, peculiarities of the economy and settlement.

At the same time, it is a rather complex and ecologically vulnerable region, where natural-resource and ethno-cultural potential have distinct tendencies to decline and degradation. The situation is further complicated by the abundance of conflicts (Makoev, 2009).

The research aim is to present information as a factor of environmental management and nature conservation and, consequently, as the most effective method for resolving the most acute crisis situation in the Caucasus. Moreover, the problems of sustainable development of mountain areas of the Russian Federation are of great practical importance in the formation and implementation of the regional development strategy.

This made it possible to determine the subject of the study, which is represented with environmental information, that is a textual space in unity with visual information generated by the activities of traditional mass media of the NO-Alania: print media, television and new media, including online media, blogs, social networks, messengers and other network resources. This to some extent contributes to the expansion of information space of the Russian Federation, thereby increasing the population's awareness of environmental issues.

5. Research Methods

Specificity of the research subject has determined the different levels of theoretical and methodological investigation (general scientific, specific scientific, disciplinary and interdisciplinary) based on:

- natural-structural and systemic approaches (Ashby, 1966; Bertalanfi, 1969; Kuzmin, 1982; Sagatovsky, 1973);
- fundamental works on the concept of information, its functioning in society as a means of public opinion management (Akopov, 2015; Shkondin, 2002; Tulupov, 2001);
- research into environmental information as a method of environmental management in the context of the theory of sustainable development (Chesanov, 1975; Khaskina, 1980; Lazarevich, 1960; Moiseev, 1995; Opykhtina, 1979);
- research into specifics of the mountain areas of the No-Alania, allowing for structuring of the concept of information as a method of environmental management and nature conservation (Abbasov, 2014; Akhmedova & Idziev, 2013; Bubnov, 2014; Gerter & Misakov, 2012; Makoev, 2009). Moreover, as Reimers (1990) argues, modern ecology is one of the key backbones of nature use.

The results of this study aimed at analyzing information-communicative space of the NO-Alania, are partially presented in this article. In the course of this study, a number of tasks have been discussed. The first condition of ecological information being a method of environmental management is its accessibility in the information-communicative space of the region. As for this condition, we have determined that such information is accessible in the NO-Alania.

The second condition is the structure of information-communicative space, in which environmental information functions. In the NO-Alania, the structure includes traditional segments such as printed media, radio, television. However, analysis of the structure has shown, that it has changed significantly over the past decade due to the emergence of online versions of traditional media. For example, the Republican daily newspaper North Ossetia is published not only in print form, but also has its own website. This online resource contains the archive of the newspaper and allows assessing the coverage of environmental issues.

The Ossetian radio and television also have their own online space, which allows for a slightly different interpretation of their place-and-time attachment. Viewing of a certain broadcast or listening to a radio program is now possible via the Internet. For example, the news on environment protection with children's drawings in the North Ossetia that was presented by chairman of the Union of Artists of the NO-Alania Taimuraz Margiev on 23 November 2018 at 5 p.m., can be found in the specified resource at any time after.

Openness and accessibility of information for the region's population is largely promoted by such Internet resources as Vladikavkaz Region online, News of North Ossetia-Alania, 15th Region (North Ossetia); e-journal Evening messenger, Caucasian centre, etc. To a certain extent, they are proactive as they manage to report topical news on environmental issues before the newspaper writes about it or the story will be broadcast on television.

This study has proved again that the network is a living organism. As the analysis of the NO-Alania network space has shown, there are now about hundred information resources, in one way or another relating to the issues of environmental management of the Republic. Some of them are local, while others are produced beyond the region. To a lesser extent, the environmental theme of the Republic becomes an information occasion for federal information resources.

But at the same time, not only the press, but also the state structures of the region understand the importance of new channels of information dissemination, and actively begin to use them in their work. Sometimes periodicals are inferior to them in the speed of publication. Servers of the state structures and public organizations are among these channels. For example, the information-communicative space includes official websites of the NO-Alania, Parliament of the NO-Alania and other state agencies. Almost all ministries and departments of the Republic are represented in the network by press services. The most proactive online resources promoting environmental information are the website of the NO-Alania Main Directorate of the Ministry of the Interior, the press service of the Ministry of Natural Resources of the NO-Alania, the Federal State Institution Tsentrvedresursy of the NO-Alania, etc.

For example, the website of Tsentrvedresursy Institution reports on 1 November 2018 that their leadership together with the All-Russian Community for Nature Protection, the Territorial Water

Resources Department of West-Caspian Basin Water Administration, and volunteers took part in the All-Russian ecological event "Save the shore" aimed at cleaning river banks.

The use of press services' information by other web resources proves the fact that management by means of information is a quite effective method. The website Ossetia-Iryston publishes the following news "The press service of the NO-Alania government reports on 7 December 2018 at 5.54 p.m. that the commission for investigation of the fire at Elektrotsink JSC plans to complete the work on December 20 in case expertise results are provided by the law enforcement agencies and the Ministry of Emergency Situations by this time".

The online resource "The 15th Region (North Ossetia)" also makes references to information sources of press services of different departments. For example, it informs that specialists in energetics of the North Ossetia held an eco-lesson in the framework of the all-Russian project "Nature concerns children". The press service of the branch of Sevkavkazenergo Company (21 April 2017, 2.51 p.m.).

The information-communicative space of the NO-Alania is dynamically developing due to the Internet, thereby expanding its opportunities for information management in the field of nature use and nature protection. Today, space includes constantly updated websites, portals, blogs, social networks and other new platforms such as messenger Telegram and YouTube. The Region Online Vladikavkaz North Ossetia has its own telegram channel, which posts current news, interesting to everyone On YouTube you can find videos "Discussion of environmental issues" (November 25, 2016), "Open dialogue", "Electrotsink plant, the NO-Alania" (October 25, 2018), "At the Ministry of Natural Resources and Environment of the NO-Alania" (January 25, 2019).

The official Instagram profile of the Ministry of the Interior of the Republic of Alania #MIA 15 is already two years old. Moreover, the Republic has its own network "My Caucasus" similar to a social network of the Caucasus (MyKavkaz), where photos, videos, blogs, and forums of the region are posted.

The third condition that allows considering information as a method of environmental management is the availability of not only mass, but also special scientific information that introduces environmental knowledge into public use. While mass information is mainly addressed to a wide audience, specific environmental information is more focused on specialists in nature-oriented fields of activity, who are responsible for making important decisions with regard to environmental issues.

This condition is realized to a greater extent by scientific journalism, purposefully presented among other scientific publications by the journal "Sustainable development of mountain territories". The journal has been published since 2009. Founder: North Caucasus Institute of Mining and Metallurgy (State Technological University). According to Editor-in-Chief, Rector of the North Caucasus Institute of Mining and Metallurgy, Doctor of Economic Science, Professor Vagin (2009), this journal is also a followup of long and hard work of the leadership of the Republic of North Ossetia-Alania, the North Caucasus Institute of Mining and Metallurgy and our partners in the Southern Federal District, in the mountainous regions of Siberia, the Urals, Moscow, St. Petersburg, Kyrgyzstan, CIS countries - on comprehensive study of mountain areas, development of mechanisms for practical application of accumulated field-specific theoretical knowledge (Vagin, 2009).

It should be noted that this journal along with traditional media of the region is actively developing the network information space. Today, the journal has its own website containing all the issues, including

the newly released issue. The traditional columns include Earth sciences, engineering sciences, scientific opinion, economics, etc.

According to the publishers, the journal covers a whole range of problems faced by people living near the mountains or away from them, but, in any case, influenced by natural areas - geology and seismology, climatology and ecology, balneology and medicine, geopolitics, economics and law, specific nature management, mountain and foothill agriculture (Vagin, 2009).

A wide range of topics is the fourth condition that makes information a method of environmental management. To some extent, they are developed by both traditional and online media. To a greater extent, they pay attention to the pollution of soils and water bodies disturbed as a result of mining and processing of minerals, etc.

Today, these and other burning environmental issues are in demand by the population of the Republic of NO-Alania. Website of the Foundation for entrepreneurship support of the NO-Alania has posted the following message: "ecological trouble of Vladikavkaz consists in extremely small greenery, which enriches the air with oxygen. According to available data, each resident of Vladikavkaz has three times less land than required by sanitary standards. What should be done?".

This publication is not the only example that suggests that the population, which is in many respects far from environmental problems, is involved in environmental activities. But thanks to a sufficiently large number of different network information resources, it received the right to participate in solving environmental problems in the region. Feedback is the fifth condition of environmental management, which is fulfilled by both state information resources, mass media, and entrepreneurs' projects developed in the NO-Alania in recent years.

The most interesting experience in organizing feedback has been accumulated by the Public environmental reception office of the NO-Alania, which was established as a public control body, designed to impartially solve important environmental problems. This project, initiated by the National center for ecological and epidemiological safety, was successfully implemented during 2014–2017.

As reported by local television news, public environmental reception office has been presented in Vladikavkaz. It will become an independent supervisory body, uniting the efforts of the authorities and the public in solving environmental problems. Consulting the population on ecological issues is one of the main directions of reception office work.

For almost a five-year period of its existence, the North Ossetian public organization "Public environmental reception office" has managed to do a lot. Its activities are covered by many information resources of the Republic, such as Vladikavkaz: Beyond format.

Today, the Public environmental reception office is being replaced by the Public Council under the Ministry of Natural Resources and Ecology of the Republic of North Ossetia-Alania. As follows from Order No. 4 of December 01, 2015 (Regulation on the Public Council under the Ministry), the Public Council was established "for the purpose of representing the public in addressing environmental issues, as well as involving civil society institutions in the development of recommendations that contribute to the adoption of optimal decisions in the field of nature protection and environmental safety".

The Council reports on its activities in the official website: holding the annual Republican contest "Forest as viewed by children"; work of the state ecological commission, justifying the quotas of hunting

resources in the NO-Alania, etc. Establishment of the Council indicates a search for more effective measures of environmental management and protection activities through environmental information. This allows hoping that the information method, which largely contributes to the openness of environmental information, makes environmental knowledge available to the widest segments of the population, will take its rightful place.

6. Findings

Thus, the NO-Alania has all the conditions that would allow environmental information as a developing method of environmental management making environmental knowledge available to the widest segments of the population. This is important since only the efforts of the entire population of the Republic involved in environmental activities can improve the state of the environment. In this case there would be no need to hold ecological days aimed at nature protection promotion in the North Ossetia.

7. Conclusion

The conducted research allows arguing that environmental information is an effective method of environmental management along with a number of administrative, economic, socio-psychological and other methods.

We have outlined the conditions, under which environmental information plays the role of a method of environmental management in the region. These include:

1. Availability of information-communicative space in the NO-Alania that meets the modern trends of development. First of all, we are talking about the Internet actively used for posting dynamically developing information resources, which have significantly expanded the flow of environmental information, making it more accessible to the audience. This allowed reaching wide population segments and involving them in the environmental processes. It should be noted that young people is the main target audience, since they are active Internet users.

2. Structure of the information-communicative space, in which environmental information functions. In addition to traditional mass media, an actively developing network segment also makes part of the structure with about a hundred information resources. The multifaceted network structure includes the following formats of environmental information: servers of state agencies, news agencies, electronic versions of print media, online environmental publications, websites of public organizations, blogs, social networks and other new platforms such as telegram messenger or YouTube.

3. Availability of both mass and special scientific information that introduces environmental knowledge into public use. This condition is realized to a greater extent by scientific journalism, purposefully presented among other scientific publications by the journal "Sustainable development of mountain territories". The journal covers a whole range of problems faced by people living near the mountains or away from them, but, in any case, influenced by natural areas.

A wide range of topics developed by both traditional and online media within the scope of scientific journalism. To a greater extent, they pay attention to the pollution of soils and water bodies disturbed as a result of mining and processing of minerals, etc.

5. Feedback fulfilled by both state information resources, mass media, and entrepreneurs' projects developed in the NO-Alania. The most interesting experience in organizing feedback has been accumulated by the Public environmental reception office of the NO-Alania, which is currently being replaced by the Public Council under the Ministry of Natural Resources and Ecology of the Republic of North Ossetia-Alania.

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