Effectiveness of the right to health and favorable environment in the Arctic regions

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Abstract. The main problem in the realization of the rights to a favorable environment, including in the Arctic regions, is the difficulty of establishing and proving the causal link between economic activity and damage to health. Modern scientific achievements make it possible to establish the connection between the micro-environment and health and, therefore, to provide indemnification of damage. But the causal link between degradation of macro environment and human health is less studied, which leads to complications in judicial practice.

1 Introduction

While environmental protection was not yet seen as a purely social problem, it was mainly of interest to marginal social groups. In the 1990s, environmental protection took a new direction of development and new laws were adopted, establishing requirements for the protection of a favorable environment. This circumstance caused a number of favorable changes in environmental protection.

First of all, environmental protection became a hot political topic, which was widely discussed in various political debates, especially during elections.

Involvement of people in "environmental thinking" made it possible to issue laws focused at protecting human health and their rights to a favorable environment. One of the most significant law is the French Environmental charter of 2005 [1], whose first article reads as follows: "Everyone has the right to live in a favorable environment". As a result of these changes, the legal system has taken a "green" direction [2].

Secondly, the popularization of the environmental topic has served to develop the direction of environmental law in French jurisprudence since the 1980s. As result, new educational programs and a new discipline "santé environmentale" (which can be translated as "environmental health") emerged [3].

Thirdly, the World Health Organization has begun research in the new area of "environmental health" ("santé environmentale"), which includes the following aspects: human health, the quality of human life, which is determined by physical, chemical, biological, social, psychosocial and aesthetic factors of the environment. Research has been used to identify environmental factors that affect human health. Research is also used to study how to manage, control and prevent environmental changes that may affect the health of current and future generations. In this regard, there have been many scientific dissertations on this topic [4].

In France there is a scientific organization that deals with environmental health - the Francophone Society for Environmental Health [5], as well as a world association - the International Federation for Environmental Health [6]. According to some researchers, the discipline of "environmental health" may eventually replace the discipline "santé publique" (public health) [7].

The roots of this science go back to 19th-century public health, the goal of which was to combat epidemics caused, in particular, by urban development as a result of the Industrial Revolution. Many French laws stem from this trend (Law of May 13, 1850 on unsanitary housing, law of February 15, 1902 creating compulsory vaccination, and even before, an imperial decree of October 15, 1810 "relating to factories and workshops which spread an unhealthy or uncomfortable smell ")

Currently, "environmental health" ("santé environnementale") is a subject of legal research and jurisprudence. This discipline, however, is somewhat ambiguous: it focuses on the immediate human environment ("microenvironment"), which directly affects human health, but tends to move away from human concerns to consider the global environment ("macroenvironment"). General environmental degradation is likely to threaten human health, but so does humanity itself threatening global planetary health. Nevertheless, the more the law addresses micro environmental issues (I), the more difficult it is to resolve macroenvironmental disputes (II). This phenomenon is more pronounced in the Arctic regions.

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2 Indemnification of damage caused to individuals

2.1 Problematics

At first glance, one might assume that negative changes in the microenvironment do not affect Arctic residents as much as urban residents, such as those living in buildings between the highway and the airport. However, for indigenous peoples, the negative changes in the microenvironment caused by industrial development of their lands - oil drilling, mining of diamonds, gold and other minerals, construction of temporary workcamps in which migrant workers live, also cause enormous damage to their way of lifestyle and health. Roads, pipelines and other infrastructures affect the areas of traditional residence of indigenous peoples, destroying hunting and nomadic areas. Also, the health of the indigenous population is affected by newcomers, who may be carriers of diseases that are not typical for these regions.

Another threat to the health and lives of indigenous people is a change in their lifestyle, a change in food habits: the modern food industry is replacing traditional food products. This happens because indigenous people cease hunting and fishing due to changes in living conditions and changes in the environment. In addition, indigenous people are losing their hunting and fishing skills. These phenomena have been documented among island peoples, such as the Melanesians (French Polynesia) or the Kanaks (New Caledonia) and among the peoples living in the Arctic regions of Canada [8].

2.2 Scientifically proven and legally established causal relationships

If health risks are scientifically proven, the state must take measures to prevent them. The responsibility of the state to protect the health of the population is enshrined in the constitutions of virtually all states. In the event that the authorities are unable to protect public health, mechanisms for indemnification of harm are provided. This classic legal mechanism has become possible due to scientific progress in identifying threats to the environment associated with human activities. The gradual formation of indicators or aggregates, which are now reliable [9], makes it possible to determine more accurately the causal relationships between harms caused to one or more subjects and the environment. The establishment of scientific reasons on which the judgement is based, with the help of an expert, is a condition for the condemnation of the alleged causer of harm and the award of compensation to the victim.

In all legal systems, the complainant must prove at least three facts: the harm caused to them; the source, and the causal link between them. For example, a small settlement and an association of local residents were able to prove health damage as a result of environmental pollution caused by an incinerator that significantly exceeded European standards for emissions of dust and dioxins [10]. In this particular case, the existence of established standards of dust emissions, which were violated, made it easier to obtain compensation. Another case, much more prominent in the media, concerned the spread of toxic green algae on the Breton coast due to the excessive use of nitrogen fertilizers by farmers [11]. Several people were poisoned, and entire beaches are still closed for health reasons. France has been condemned both by the Court of Justice of the European Union [12] and by the national courts: in a decision of 12 July 2017, the Council of State overturned the government's refusal to take all necessary measures to ensure compliance with European Directive 2008/50/ CE of 21 May 2008 on atmospheric air quality [13].

If there were no standards for the use of nitrogen fertilizers, applicants would first have to prove: 1 / the risks of using nitrogen fertilizers; 2 / the obligation of the state to establish limited norms; 3 / the connection between the lack of that standard and the harm to the health of those affected, which would cause many obstacles, often insurmountable due to lack of scientific methods. Representatives of small communities have tried to solve the problem and have addressed the problem of collisions with electrical objects, but their requests were rejected [14].

This burden of proof, or its relaxation, can be only be reversed by law, as was done in France with regard to the consequences of nuclear tests for the inhabitants and the military in the Algerian Sahara or in French Polynesia. [15] Except in these cases, compensation is not possible without sufficient evidence. Many interpretations of the environment have been rejected by the courts because they were based on people's "anxiety" and on rumors attributing some death to some allegedly dangerous activity [16]. Moreover, in practice, it is not uncommon for health concerns to be used to overturn construction, that is actually less hazardous to human health than the value of the plaintiffs' real estate [17].

Thereby, the development of microenvironmental science provides detailed information about the effects of activities on the human environment, which forms the basis for the judge in the proof. The Court of cassation was able to overturn the decision of the court of Appeal, which, instead of verifying for each applicant the real fact of harm and its causal relationship with the alleged factual violation, made a formal decision [18]. These scientifically proven causal relationships are the basis for judicial decisions, as well as for legal acts. The regulation of activities is a kind of violation of freedom, which can only be justified by the protection of public health. A similar example is the administrative court, when it checks the legality of an order by examining the proportionality of sanctions [19].

Thus, a resident of the arctic region directly affected by pollution can count on proven legal instruments. The situation is different when it comes to indirect victims in the macro environment.

3 Compensation for damage to a collective

3.1 Problematics

The scientific concept of "human bioclimatology" was presented in the medical work of researcher J.P. Besansenot [20]. The relationship between climate and human health has been emphasized since the 18th century as two systems, the interchange between which is stable over time: climate regulates human life, while humans have no or insignificant influence on climate. nowadays, however, climate has dramatic changes that affect the individual throughout his or her life. It has been scientifically proven that nature and human communities adapt to climate change from generation to generation [22], but on the scale of a single human life, this adaptation is much more difficult. However, it is at this scale that the adverse health effects manifest themselves, because, on the one hand, climate change accelerates, and on the other hand, life expectancy increases.

Researches of the impact of the strong cold waves interspersed with floods and winter storms to the health of indigenous people of Quebec have been carried out [23]. The global warming contributes to the appearance of parasites that were previously absent in the Arctic regions (mosquitoes and other biting insect vector of diseases) and infections which imported from other regions. Due to global pollution, accumulations of plastic enter into food, in particular through fish, which is a staple food in the Arctic regions. Another threat to health is the risk of food security, lack of fishing resources, sources of protein.

In addition to these direct health effects, there are changes in social behavior that have health consequences, such as food changes caused by the scarcity of traditional foods. As noted in the Arctic regions, as well as in other regions of the world, the replacements of traditional foods with imported foods, which have much more sugar and carbohydrates, leads to cardiovascular problems, diabetes, vitamin deficiencies, anemia, dental problems and obesity with all the ensuing consequences. In addition, the indigenous population's resistance to infections is reduced. The current mortality and morbidity rates among Inuit are higher than in other places of Quebec, mainly due to their poor nutrition and smoking. As a result, the life expectancy of the elderly is reduced, well-being is reduced, and consequently mental health risks arise, all of which may also be linked to climate change. In these cases, it is necessary to determine the amount of harm to be compensated.

3.2 Scientifically unproven and legally difficult-to-prove harm

As the court practice shows, only the possibility of connecting these two phenomena by causal relationship allows the court to solve the issue of indemnification. If the pollution of the water network of the region resulting from human agricultural activities can be easily identified. How to quantify the relationship between the global oil industry and the harm it inflicts to the population of Arctic region?

An application to the court for indemnification for harm to health caused by environmental violations can be considered in favor of plaintiffs only if reliable indicators would be developed, the ones which will allow the judge to go beyond the consideration of cases which court usually do [24]. Only these objectively formulated indicators will make it possible to identify measurable causal relationships between a global phenomenon (pollution, global warming) and the consequences of which the indigenous population suffers. However, the larger the scope of the dispute due to the increase in the community of plaintiffs (for example, the "Arctic peoples"), then less indicators we have. Therefore, it is difficult to deviate from the classical model of litigation based on the consideration of damage to an individual or a small community of persons faced with polluting activities, which has been studied and understood. So we have to return to litigation on the microenvironment due to the lack of scientific data on the macro environmental causes of negative changes in the environment.

An example of such practice is a petition made in 2005 by Inuit in Canada and the United States, with legal support from the nongovernmental organization (NGO) Earth Justice, to the Inter-American Commission on Human Rights. The Commission decided that there was insufficient information to judge that emissions from American industry directly or indirectly affected the rights of indigenous peoples in the Arctic (in particular, the right to life and health) [25]

This does not exclude positive changes in the future. In addition, some courts take a flexible approach in establishing causation. For example, the American court has the following approach: "an indirect causal relationship will be sufficient if there is a sufficiently traceable relationship between the alleged actual damage and the alleged behavior of the defendant" [26]. There are other methods, such as an environmental impact assessment procedure prior to construction with an environmental impact - which has been compulsory in France since 1976. Environmental impact assessments are reviewed by courts. However, the courts do not have sufficient scientific competence to consider them objectively, especially when they are contradicted by other studies provided by environmental associations. Even experts, despite their competence, cannot unambiguously interpret the assessments. Environmental impact assessments are often criticized for being based on only one scientific discipline, whereas it would be more effective to supplement the assessments with knowledge from several scientific disciplines to highlight the real impact of industry and infrastructure on the environment. So the problem doesn't lies in the personality of the expert or his possible conflicts of interest, but in his specialty and knowledge that he must mobilize to assess the threat to the environment or health [27]. International agreements are concluded to involve different branches of knowledge, which involve the public in the study of potential environmental impacts prior to the construction of infrastructure [28].

Meanwhile, the causal link between pollutants, climate change and victims is too vague to trigger the

classic compensation dispute, even on the basis of environmental damage. Indirect impacts on health and the environment, these "global crises" make the task much more difficult [29]. Despite the existence of legal acts in which assessments of the impact of industrial activities on the environment and health are mandatory, modern scientific methods cannot provide objective data to the court and their justification in terms of causation. The forensic tool is not effective. Therefore, we must envision other legal instruments: foresight, precaution, preliminary collective compensation for damage, in other words: a preventive approach aimed at preventing damage or mitigating the consequences.

4 Conclusion

Of course, it is possible to "objectify" [30] responsibility for the damage caused to the climate, and its consequences for the environment and health, allocate funds for this from the state budget, which in turn is also reimbursed from the tax on environmentally polluting activities. But this presupposes the conclusion of international agreements, which, as you know, cause certain difficulties in the conclusion. It is also possible to introduce at the national level binding treaties on liability for health and the environment, which should precede any activity that carries risks to the environment and health. There are many preventive and legally promising methods, but which involve transparency and integrity of all stakeholders.

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References

1. Constitutional law the French Republic n° 2005-205 of March 1, 2005 relating to the Environmental Charter (2005)
2. The environmentalization of law, Studies in honor of Sylvie Caudal, coed. Varenne / Francophone Institute for Justice and Democracy (2020)
3. A. Cicolella, Le trente-troisième anniversaire de la santé environnementale, *Les tribunes de la santé,* **54**, pp. 31-37 (2017)
4. C. Guilleux, L'institutionnalisation de la santé environnementale France, *Aix-Marseille University doctoral thesis in sociology* (2015)
5. The Francophone Society of Health and Environment Available online: http://www.sfse.org/FR/presentation/qui_sommes-nous.asp (2021)
6. The International Federation of Environmental Health website Available online: https://www.ifeh.org/index.html (2021)
7. J. Le Moal, D. Eilstein and G. Salines, La santé environnementale est-elle l'avenir de la santé publique?, *Revue Santé publique*, **22(3)**, p. 281 (2010)
8. G. Imbert, Vers une étude ethnoépidémiologique du diabète de type 2 et de ses complications, Santé publique, **20(2)**, p. 113 (2008)
9. M. Calvez, Les plaintes en santé environnementale et l'expertise épidémiologique, *Sciences sociales et santé*, **33(4)**, p. 7 (2015)
10. C. Lepage, note Oct. 11, 2019 CA Paris no. 18-04919, Maincy incinerator case, Rev. Energy Environment Infrastructures 2019/12, n° 60 (2019)
11. C. Etrillard, Le droit face aux marées vertes en Bretagne, *Rev. Energie Environnemen t– Infrastructures,* 04 study, 11 (2018)
12. ECJ, June 27, 2002, case C-258/00, Com. EC v/ France: Rec. ECJ 2002, I, p. 5959. – CJEU, June 13, 2013, case C-193/13, Com. EU vs. France (breaches of the Nitrates Directive). – ECJ, September 23, 2004, case C-280/02, Com. EC v/ France: Rec. ECJ 2004, I, p. 8573 (breaches of the urban waste water directive). – V. on all these cases: A. Van Lang, The administrative judge, the State and green algae: AJDA 2010, p. 900. – Ph. Billet, V. Themis Ulva spec., Legal variations on green algae: BDEI, 2010, suppl., p. 31. – N. Hervé-Fournereau, The Court of Justice of the European Union and the quality of water: jurisprudential reflections of the paradoxes of the Union's water policy, In case C-280/02 The legal books, 2010, **51(3-4)**, p. 947 (2002)
13. EC, ass., July 10. 2020, No. 428409, Assoc. Friends of the Earth - France and others. Also CAA Nantes, 1 Dec. 2009, No. 07NT03775, Min. ecology, energy, sustainable development and the sea c/ Association "Halte aux tides vertes" (2020)
14. Administrative Court of Appeal of Paris, 20/12/2007, n° 05PA02760 (2007)
15. Law n° 2010-2 of January 5, 2010, article 4: "the person concerned benefits from a presumption of causality", the conditions of which are set by decree n° 2014-1049 of September 15 2014 (2014)
16. M. Calvez, et al., Les plaintes en santé environnementale et l'expertise épidémiologique, *Revue Sciences sociales et santé*, **33(4)** (2015)
17. Case of appeals against the construction of wind farms, or water treatment plants. Court of Cassation, Criminal Division, May 9, 2007, 06-87.174 (2007)
18. Cour Administrative d'Appel de Marseille, Juge des référés, 17/05/2006, 06MA00755, à propos du réaménagement d'une zone industrielle particulièrement polluante (Fos-sur-Mer) (2006)
19. J.P. Besancenot, Climat et santé PUF (Presses Universitaires de France, 2001)
20. J.P. Besancenot, Climat et santé PUF (Presses Universitaires de France, 2001), p. 4
21. J.P. Besancenot, Climat et santé PUF (Presses Universitaires de France, 2001), p. 116

22. P. Gosselin and D. Bélanger, Research impacts and adaptations of public health to the new climate of Quebec, *Revue Santé publique,* **22(03)**, p. 291 (2010)
23. Etude menée par l'Institut national de santé publique du Québec en 2004 Available online: https://www.inspq.qc.ca/sante-des-autochtones/enquete-de-sante-aupres-des-inuits-du-nunavik-2004 (2004)
24. M. Calvez, V. Van Tilbeurgh and S. Ollitrault, Environmental health complaints and epidemiological expertise, *Revue Sciences sociales et santé*, **33(4)**, 7 (2015)
25. Osofsk H.M. view on this petition «The Inuit Petition as a Bridge? Beyond Dialectics of Climate Change and Indigenous Peoples' Rights », American Indian Law Review 2007 675 Available online: http://www.inuitcircumpolar.com/inuit-petition-inter-american-commission-on-human-rights-to-oppose-climate-change-caused-by-the-united-states-of-america.html. (2007)
26. Comer et al vs. Murphy Oil USA inc. et al 2009 9 Available online: http://www.ca5.uscourts.gov/opinions/pub/07/07-60756-CV0.wpd.pdf (2009)
27. K. Favro, et al., *L'expert dans tous ses états* (Dalloz, 1996), p. 97
28. The Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, signed on June 25, 1998 in Denmark (2008)
29. W. Dab, Santé et environnement PUF, *Que Sais-je*, p. 58 (2020)
30. A.S. Tabau and C. Cournil, *Rev. juridique de l'environnement,* **40(9)**, p. 683 (2015)