

Brazilian and Japanese Perspective of Environmental Damage

Perspectiva brasileira e japonesa de Dano Ambiental

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Abstract

The constitutionalization of the environment without normative density that allows us to know exactly what is the object of protection requires a more detailed study in order to verify the portion of reality that is protected by the constitutional norm. Added to this, there is the fact that the Brazilian Constitution adds to the still undetermined concept of the environment the quality of the ecological balance, which makes an interdisciplinary approach necessary. The notions of environment and environmental good, although relevant, are insufficient to determine the scope of protection of that fundamental right. For this, it is appropriate to use the concept of environmental damage, associated with a technical analysis, for the correct application of the Brazilian and Japanese Major Law and adequate Brazilian and Japanese protection of the environment. Thus, the research is inserted in the logical deductive method, using the bibliographic reference search procedure and the qualitative approach.

Keywords: Environmental damage. Environmental good. Tolerability Limits. Ecological balance. Brazil and Japan.

Resumo

A constitucionalização do meio ambiente sem densidade normativa que permita saber exatamente o que é objeto de proteção impõe um estudo mais detido a fim de verificar a parcela da realidade que é tutelada pela norma constitucional. A isso se soma o fato de a Constituição brasileira agregar ao conceito de meio ambiente, ainda indeterminado, a qualidade do equilíbrio ecológico, o que torna necessária uma abordagem interdisciplinar. As noções de meio ambiente e de bem ambiental, embora relevantes, são insuficientes para determinar o âmbito de proteção do referido direito fundamental. Para isso, mostra-se adequado utilizar o conceito de dano ambiental, associado a uma análise técnica, para a correta aplicação da Lei Maior e adequada proteção do meio ambiente no Brasil e no Japão. Assim, a pesquisa está inserida no método dedutivo lógico, utilizando o procedimento de busca de referenciais bibliográficos e com a abordagem qualitativa.

Palavras-chaves: Dano Ambiental. Bem Ambiental. Limites de Tolerabilidade. Equilíbrio Ecológico. Brasil e Japão.

1 Introduction

The current scenario of environmental law in Brazil allows us to say that it is a true truism to emphasize that article 225 of the Constitution of the Republic enshrines a fundamental right¹. This is because the doctrinal and jurisprudential understanding in this sense assumes a unison character, even though the said provision is outside Title II of the Major Law.

However, the interest in the fundamental law clause does not end with this finding. On the other hand, it is the fact of taking care of the norm subtracted from the sphere of availability of the constituted powers and inserted in the material limits of constitutional reform that gives rise, or rather, that requires more interpretative care regarding the scope of protection of the norm essential.

In this paper, it is assumed that the absence of definition or conceptualization leads to an emptying of the content of the fundamental right, since simply stating that everyone has the right to an ecologically balanced environment says little about the part of reality that is protected by norm of such importance to life in society. Timely is Rui Carvalho Piva's warning:

If we do not want to make a mistake, by choosing the path of juridical environmental boastfulness or by going the opposite way of conservative skepticism, the entry into the subject that we will now face more directly must be preceded by some simple but fundamental reflections².

Anyway, interpretation is necessary.

What, then, is protected by the Constitution?

Without intending to exhaust the theme, because environmental matter does not allow the definitive claim due to the dynamics of human actions and the constant scientific evolution, the aim of this article is to bring more concrete parameters for the proper understanding of the fundamental right to ecological balance; environment for the healthy quality of life of present and future generations.

It is understood that working with clear concepts facilitates the definition of the obligations of society and the Public Power, the attribution of responsibilities and the balancing of fundamental rights with other constitutionally protected rights and assets. In addition, identifying the scope of protection avoids arbitrary action in the application of constitutional norms.

1 CANOTILHO, J. J. G.; MENDES, G. F.; SARLET, I. W.; STRECK, L. L. (Coords.). *Comentários à Constituição do Brasil*. São Paulo: Saraiva/Almedina, 2013. p. 2078.

2 PIVA, Rui Carvalho. *Bem Ambiental*. São Paulo: Max Limonad, 2000. p. 109.

To this end, the legal definitions of environmental damage and environmental good will be used as opposed to concepts derived from ecology, such as ecosystem³, environment and ecological balance, with the ultimate goal of presenting a constitutionally appropriate proposal of the situation protected by the constituent in Article 225 of the Federal Constitution. An approach to these subject will also be presented in the light of environmental law in Japan.

It is noteworthy that this research is inserted in the logical deductive method, using the procedure of searching bibliographic references, as well as the qualitative approach.

2 Environment

At the outset, it is worth remembering that the notion of environment that is now sought is linked to the need to define the scope of protection of the law enshrined in the Constitution. Therefore, José Rubens Morato Leite warns that “the generic notion of the environment can be built from various theoretical perspectives and scales, considering the chosen option of scientific specification⁴”.

Constitutional norms do not conceptualize what the environment is. However, the constituent gives a direction to be followed by the interpreter, since it qualifies the environment by linking it to the ecological balance and the function of ensuring a healthy quality of life. Before moving on to a more palpable definition, we again note the lesson of Morato Leite, who points out that it is not “possible to conceptualize the environment from an anthropocentric viewpoint, since its legal protection depends on human action⁵.” Thus, the current stage of society imposes the legal regulation of fundamental issues for human development and social life, even though they are not traditionally matters related to law.

Specifying the issue from the anthropocentric point of view, one must agree with Morato Leite in adopting a broad anthropocentrism, which proposes environmental protection not only for human enjoyment, but also for recognizing an intrinsic value in preserving the environment due to its maintenance of its functional capacity⁶.

3 To understand more about some other related concepts, as for example the “ecodiversity damage”, see SILVEIRA, PAULA DE CASTRO, *Dano à Ecodiversidade e Responsabilidade Ambiental*, Petrony Editora, 2019, pp. 93 ss.

4 LEITE, José Rubens Morato. *Dano Ambiental: do individual ao coletivo extrapatrimonial*. 2. ed. São Paulo: Revista dos Tribunais, 2003. p. 71. O mesmo autor ainda deixa claro que as compreensões acerca do meio ambiente e do dano ambiental variam de acordo os ordenamentos jurídicos, o que decorre muito da vagueza dos conceitos.

5 LEITE, José Rubens Morato. *Dano Ambiental: do individual ao coletivo extrapatrimonial*. 2. ed. São Paulo: Revista dos Tribunais, 2003. p. 71-72.

6 LEITE, José Rubens Morato. *Dano Ambiental: do individual ao coletivo extrapatrimonial*. 2. ed. São Paulo: Revista dos Tribunais, 2003. p. 76.

Let us not forget, however, to seek a concept of the environment. If it is true that the Major Law did not take care of this, the infra-constitutional legislator was concerned with the matter. The law of the National Environmental Policy, throughout article 3, provides several necessary definitions for the proper application of environmental legislation. Thus, “environment” means the set of conditions, laws, influences and interactions of a physical, chemical and biological nature, which allows, shelters and governs life in all its forms. The breadth of the concept is highlighted when looking at the content of item V, since the environment is not confused with the more restricted notion of environmental or natural resources. This is because the device states that environmental resources are “the atmosphere, inland, surface and groundwater, estuaries, territorial sea, soil, subsoil, biosphere elements, fauna and flora”.

However, the legislative provision gives rise to an important question. Given that the standard was issued under Constitutional Amendment No. 01/69, which had no environmental regulation, much less a fundamental right to environmental ecological balance, it is necessary to verify whether the provisions of Article 3 of Law No. 6,938 / 81 are compatible with the 1988 Constitution. The way in which the fundamental law is written allows us to conclude that the law was received by the Federal Constitution on this point, since a broad definition of the environment, before confronting the Major Law, corroborates the greater environmental protection, because the use of the restricted notion that focuses only on natural resources runs the risk of leaving out fundamental aspects for a healthy quality of life, as it “despises everything that is not related to natural resources”⁷. In this sense, we take the lesson of José Afonso da Silva:

The concept of the environment must therefore be globalizing, all-embracing, artificial and original, as well as related cultural goods, thus comprising soil, water, air, flora, natural beauty, the historical, artistic, tourist, landscape and architectural heritage. The environment is thus the interaction of the set of natural, artificial and cultural elements that provide for the balanced development of life in all its forms⁸.

Gavião Filho’s contribution is also valuable, given that, along with a totalizing idea of the environment, the transdisciplinary and finalistic view is important to achieve the objective of constitutional subjective law. See if:

[...] one must presuppose an “intermediate notion” of the environment, consisting in deducing the content of the environment from the conformation that gives it the constitutional

7 LEITE, José Rubens Morato. *Dano Ambiental: do individual ao coletivo extrapatrimonial*. 2. ed. São Paulo: Revista dos Tribunais, 2003. p. 79.

8 SILVA, José Afonso da. *Direito Ambiental Constitucional*. 6. ed. São Paulo: Malheiros, 2007. p. 20.

order and the foundations of ecology, that is, the natural environment - water, air, soil, flora and fauna - must be considered in relation to human life. Thus, environmental protection consists in maintaining the properties of soil, air, and water, as well as the fauna and flora, and the conditions of development of these species, so that the ecological system remains in its subordinate and do not suffer harmful changes⁹.

There is a refining of the PNMA Law with the freedom of conformity of the legislator. Nevertheless, the insufficiency of its Article 3 to establish a meaning for the fundamental right is evident, since the right is not to the environment, but to the environmental ecological balance, which requires an analysis of other approaches that help to achieve a range of rights lighter protection.

3 Environmental good

The constitutional protection of the environmental issue, in the terms in which it was put by the current Constitution, makes part of the doctrine to frame the environment as a kind of legal good¹⁰. It is easy to understand the line of reasoning, since the constituent considers the environmental ecological balance as an essential factor to the healthy quality of life, which allows to identify it as a value, that is, something important and, at the point, irreplaceable to reach the objective collimated by the norm. Still, it is the Constitution itself that uses the term “good” to conceptualize the environment.

Then, Rui Carvalho Piva conceptualizes the environmental good as a “diffuse and immaterial value, which serves as a mediate object to legal relations of an environmental nature¹¹.” The idea, although adequate, is far from serving the purpose of this work because it is very abstract and generic, while seeking the highest possible concreteness.

But such author, has not forgotten that the concept of the good is unfinished and it deserves to be constantly reassessed by society. The great merit of his contribution is to separate the categories of environmental good, which would be the right to environmental ecological balance for healthy quality of life, the notions of environment and natural resources¹². That as a right, is immaterial. This, on the other hand, depends on material elements that give them meaning.

9 GAVIÃO FILHO, Anizio Pires. *Direito Fundamental ao Ambiente*. Porto Alegre: Livraria do Advogado, 2005. p. 57.

10 Nesse ponto, parte-se do conceito amplo proposto por PIVA, Rui Carvalho. *Bem Ambiental*. São Paulo: Max Limonad, 2000. p. 98., para quem “bens jurídicos são valores materiais e imateriais que servem de objeto a uma relação jurídica.”

11 PIVA, Rui Carvalho. *Bem Ambiental*. São Paulo: Max Limonad, 2000. p. 152.

12 PIVA, Rui Carvalho. *Bem Ambiental*. São Paulo: Max Limonad, 2000. p. 153.

It is not difficult to note that the environmental good it is not exhausted, but reiterated, which is what we want to find out in this research. On the contrary, the notion of the environmental good seems to make the correct definition of the environment and natural resources indispensable, as well as other expressions provided for in the Constitution, so that one can know what the constituent is saying.

Still on the environmental good as a right, it is appropriate to transcribe the lesson of José Afonso da Silva:

Note that the object of everyone's right is not the environment itself, not any environment. What is the object of the law it is the qualified environment, the right we all have is to satisfactory quality, the ecological balance of the environment. This quality has become a legal asset. This is what the Constitution defines as a common use of power and essential to a healthy quality of life¹³.

As the environmental good is equivalent to the right to an environment that provides quality life, what is it necessary to enjoy this right?

4 Environmental damage

The above question may find a better answer when formulated *contrario sensu*. Thus, instead of asking what characterizes the quality of life in the ecologically balanced environment, one can ask which facts or events may hurt the fundamental right object of this work.

Initially, the characterization of environmental damage can serve to identify the scope of protection of the basic norm, which is why the state of the art is approached regarding the definition of damage.

Traditionally, it is commonly referred to as damage or injury "the injury to a protected legal interest - patrimonial or otherwise - caused by action or omission of the infringing person¹⁴". Even if the environmental issue causes legitimate changes in civil liability, especially regarding the preference for objective liability and the inadequacy of explanatory theories of causal link¹⁵, as well as the difficulty of identifying those injured by the damage caused to the environment, it is certain that the existence of damage remains firm as an assumption of the obligation to indemnify. This is because

13 SILVA, José Afonso da. *Direito Ambiental Constitucional*. 6. ed. São Paulo: Malheiros, 2007. p. 54.

14 GAGLIANO, Pablo Stolze; PAMPLONA FILHO, Rodolfo. *Novo Curso de Direito Civil: responsabilidade civil*. 8. ed. São Paulo: Saraiva, 2010. p. 78. Destaques constam do original.

15 SILVEIRA, Clóvis Eduardo Malinverni da. O Princípio de Precaução como Critério de Avaliação de Processos Decisórios e Políticas Públicas Ambientais. *Revista Internacional de Direito Ambiental*. Caxias do Sul, n. 5, ano 2, p. 27-42, maio/ago. 2013.

if there is no damage there is nothing to repair or compensate¹⁶. The existence of a contrary position is not unknown¹⁷, but even if preventive protection, which is even more relevant than reparatory protection, is essential, it is assumed that holding someone as responsible it means imputing to them a duty of reparation or indemnity injury to an interest protected by law. Now, since the damage is this injury –it is repeated– there is no liability without damage. Inhibitory or preventive protections do not seek to enter the field of liability, which leads to understand that in the study of damage it is relevant to know what is the environmental ecological balance protected by the constituent.

Importantly, damage analysis is now done with an eye to the environmental idea highlighted earlier.

At this point, Law N° 6,938 / 81 also assists the interpreter's task. Although it does not define environmental damage, the standard has the following concepts of environmental degradation and pollution:

- II - degradation of environmental quality, adverse alteration of environmental characteristics;
- III - pollution, the degradation of environmental quality resulting from activities that directly or indirectly:
 - (a) harm the health, safety and welfare of the population;
 - b) create adverse conditions to social and economic activities;
 - c) adversely affect the biota;
 - d) affect the aesthetic or sanitary conditions of the environment;
 - e) release materials or energy in violation of established environmental standards;

On pollution, one of the contributions of ecology is to identify two types of damage according to pollutants: the non-degradable, the solution is to prohibit their release into the environment, which can be achieved by replacing them with degradable elements, avoiding its production. Biodegradable pollutants, on the other hand, become a problem when they exceed the possibilities of dispersion or decomposition, which is

16 Nesse sentido, CAVALIERI FILHO, Sérgio. *Programa de Responsabilidade Civil*. 2.ed. São Paulo: Malheiros, 2000. p. 70.

17 Veja-se a posição de Carolina Medeiros Bahia: “Dessa forma, embora a doutrina amplamente majoritária, ainda exija o dano como elemento indispensável para a imputação da responsabilidade civil, verifica-se que, a partir de uma visão inovadora desse instituto (e afinada com as novas necessidades sociais), é possível enxergar, ao lado da obrigação de ressarcir, a existência de outros deveres dele decorrentes e que estão vocacionados a prevenir a ocorrência de lesões aos direitos extrapatrimoniais e aos bens de titularidade coletiva”. BAHIA, Carolina Medeiros. *Nexo de Causalidade em Face do Risco e do Dano ao Meio Ambiente: elementos para um novo tratamento da causalidade no sistema brasileiro de responsabilidade ambiental*. Tese (Doutorado) – Universidade Federal de Santa Catarina. Florianópolis, 2012. 377 p

why the identification and respect of these limits prevail¹⁸.

In this regard, Morato Leite notes that “environmental degradation is the adverse change to the ecological balance¹⁹”, in addition to the need to link degradation - wider - with pollution, given the legislator’s choice to treat concepts in an associated manner. Subsequently, the plaintiff asks how much environmental damage the obligation to indemnify can cause, since it is clear from the reading of the constitutional and legal provisions that “it is not possible to assert that any act of degradation causes an obligation to repair, considering that almost all human action can, in theory, cause deterioration in the environment²⁰ “. What is meant is that the severity of the injury is a fundamental requirement for the configuration of environmental damage:

Therefore, it is necessary to evaluate when the environmental quality balance is broken, either in the capacity related to the ecosystem, its capacity for human use and its quality of life, that is, the examination of the severity of the damage. Environmental protection is a necessary element for repair. Therefore, in the case-by-case examination, and based on expertise when necessary, the acceptable tolerability limit must be considered, so that, in the event of intolerability, the imputation of the agent who committed the injury may arise²¹.

There is no liability without harm, and no harm without serious and intolerable damage to the ecological balance. What, then, is a serious environmental damage that exceeds the tolerability limit?

4.1 Tolerability limits and environmental damage

Firstly, a conceptual issue must be resolved. Before talking about limits, care must be taken to distinguish the change in ecological balance from environmental damage, since “it is not all aggression that causes harm. For example, the spontaneous mutations of nature cannot be considered per se as the object of repair²²“. For this work, it is considered as environmental damage the intolerable damage to the ecological

18 ODUM, Eugène Pleasants. *Fundamentos de Ecologia*. Tradução de Antônio Manuel de Azevedo Gomes. 7. ed. Lisboa: Fundação Calouste Gulbenkian, 2004. p. 689.

19 LEITE, José Rubens Morato. *Dano Ambiental: do individual ao coletivo extrapatrimonial*. 2. ed. São Paulo: Revista dos Tribunais, 2003. p. 101.

20 LEITE, José Rubens Morato. *Dano Ambiental: do individual ao coletivo extrapatrimonial*. 2. ed. São Paulo: Revista dos Tribunais, 2003. p. 103.

21 LEITE, José Rubens Morato. *Dano Ambiental: do individual ao coletivo extrapatrimonial*. 2. ed. São Paulo: Revista dos Tribunais, 2003. p. 104.

22 LEITE, José Rubens Morato. *Dano Ambiental: do individual ao coletivo extrapatrimonial*. 2. ed. São Paulo: Revista dos Tribunais, 2003. p. 189.

balance that decreases the functional capacity of the ecosystem or the possibility of harnessing the environment for healthy quality of life. Perhaps, in view of this position, it is possible to reformulate the question posed by Morato Leite: instead of asking “how intense is the environmental damage that can lead to the obligation to repair?” (P. 103), one can ask: what is the adverse change in the quality of the environment that, due to its intolerability, constitutes an environmental damage?

To answer the question, it is worth starting with the statement that the ‘tolerability limit is far from enshrining a right of degradation’. On the contrary, the objective of identifying intolerability starts from the realization that there are natural aggressions, even if caused by human action, which do not imply an obligation to return to the status quo ante, since they do not cause an intolerable damage to the environment. Not every change in ecological balance is considered environmental damage: “there is environmental damage when, beyond safety limits, it results in loss of balance²³”. Of course, the requirement for clarity, highlighted as the main objective of this paper, is not to be confused with absolute certainty, since the establishment of criteria or definitions does not completely distance the shadowy zone that exists around the environmental damage. In this sense, concludes Morato Leite that “the finding of damage, in many hypotheses, requires a very heavy consideration of the interpreters of the law, because it is not at all times that scientific knowledge can offer probity subsidies of its occurrence²⁴.”

Let us advance, therefore, in the study of matter.

4.2 Ecosystem, ecological balance and environmental protection

“Man’s entire existence is being threatened by his abysmal ignorance of what keeps an ecosystem balanced²⁵.” Eugene Odum’s warning justifies the need for the interpretation of the legal rule to consider the scientific knowledge of other areas for the adequate protection of the environment to ensure the effectiveness or social effectiveness of the applicable constitutional commands.

At this point in the research, some notions of equilibrium and ecosystem should be sought, both in the legal literature and in ecology, to analyze its relationship with environmental damage and the definition of the content of the fundamental right object of study. Initially, it appears that several authors end up reducing the importance of using the term balance²⁶. Since the constant change in the properties of nature, as a

23 LEITE, José Rubens Morato. *Dano Ambiental: do individual ao coletivo extrapatrimonial*. 2. ed. São Paulo: Revista dos Tribunais, 2003. p.190.

24 LEITE, José Rubens Morato. *Dano Ambiental: do individual ao coletivo extrapatrimonial*. 2. ed. São Paulo: Revista dos Tribunais, 2003. p. 193.

25 ODUM, Eugène Pleasants. *Fundamentos de Ecologia*. Tradução de Antônio Manuel de Azevedo Gomes. 7. ed. Lisboa: Fundação Calouste Gulbenkian, 2004. p. 27.

26 Há até mesmo quem identifique o equilíbrio ecossistêmico com o equilíbrio da população, o que

result of the interactions between natural resources and human beings, is not in itself detrimental to the maintenance of environmental quality, it seems more relevant to speak of “adverse alteration” on the quality of the environment than on the loss of balance yet. In this regard, one can cite Morato Leite’s position:

On the one hand, the environment may have a connotation of natural goods and protection of these goods, more related to the ecosystem. Sendim, in explaining the immediate objectives, essentially linked to natural resources and ecological balance, asserts: “Thus, by protecting such a state of equilibrium, it aims essentially at protecting the public interest in the conservation of the ecological integrity of the natural good and the system into which it operates”. Note that the ecological balance quoted is dynamic, since nature is constantly changing²⁷.

In the same vein, some see imbalance as natural. From this point of view one can even believe that the pursuit of balance is something that can never - and should not even be - achieved; On the other hand, it is still relevant to identify the threatening or harmful imbalance to environmental quality.

Even the concept of (ecological) equilibrium must be rethought, for an entropic situation is a state of equilibrium from which nothing more can be created. Perhaps it was more relevant to talk about biodiversity. To act ecologically is to fight to maintain it. Imbalance is threatening only when it can lead to a state of hegemonization, that is, a new state of equilibrium by total disorder, which also means a new order²⁸.

Nevertheless, it is noteworthy that a line of thought coexists with the above positions, which, even without clarifying the meaning of balance - which, as supported by the lessons cited above, is of little relevance to the environmental theme - identifies its importance. usefulness in the recovery of ecological precepts that can define the

torna pouco útil o conceito para o presente estudo: “Para que los ecosistemas se mantengan estables [...] durante largo tiempo, la población de cada especie debe tener um tamaño y una distribución geográfica más o menos constantes. En pocas palabras, las muertes deben igualar en promedio a los nacimientos [...]. Por su parte, la sostenibilidad de los ecosistemas se reduce al problema de cómo mantener el equilibrio poblacional de todas las especies del ecosistema.” NEBEL, B. J; WRIGHT, R. T. *Ciencias Ambientales: ecología y desarrollo sostenible*. 6. ed. México: Prentice Hall, 1999. p. 82.

27 LEITE, José Rubens Morato. *Dano Ambiental: do individual ao coletivo extrapatrimonial*. 2. ed. São Paulo: Revista dos Tribunais, 2003. p. 81.

28 BAGGIO, A.; SCHEFFER-BASSO, S. M.; JACQUES, A.V. A. A estética do ecossistema: reeducando o antropocentrismo. *Rev. Ecosystema*. Vol. 27, n. 12, jan./dez. 2002.

quality of the environment. Even when dealing with the socio-environmental function of property and its regulation by the Civil Code, Bruno Miragem expresses in this sense:

The conception of ecological equilibrium thus refers to a qualitative requirement, that it is not enough to respect the limits of the exercise of property the maintenance of any balance, except that in accordance with the ecological precepts. Such qualification refers to the notion of healthy coexistence and able to preserve life [...]²⁹.

Thus, the momentary escape from the legal literature is fundamental for a full understanding of the subject, which should become routine in the study of Environmental Law, in view of its interdisciplinary character.

In the lessons of ecology, the contribution to this study begins with the broad definition of the ecosystem, which function is “to emphasize the obligatory relations, interdependence and causal relations, that is, the joining of components to form functional units³⁰”. Therefore, one can adopt the following concept:

Any unit that includes all organisms (i.e. the “community”) of a given area interacting with the physical environment so that an energy stream leads to a trophic structure, biotic diversity and material cycles (i.e. exchange of materials between living and non-living parts) clearly defined within the system is an ecological system or an ecosystem³¹.

This unit composed of living beings and their environment tends to remain in balance because it has a capacity to resist change and adversity, using the term homeostasis to define this return to normality³². However, this property is not absolute, since changes, whether natural or caused by human action, can easily overcome equilibrium through changes in the environment³³. Once again, Odum’s opinion is highlighted:

29 MIRAGEM, Bruno. O artigo 1.228 do Código Civil e os deveres do proprietário em matéria de preservação do meio ambiente. *Revista de informação legislativa*, v. 42, n. 168, p. 101-120, out./dez. 2005.

30 ODUM, Eugène Pleasants. *Fundamentos de Ecologia*. Tradução de Antônio Manuel de Azevedo Gomes. 7. ed. Lisboa: Fundação Calouste Gulbenkian, 2004. p. 13.

31 ODUM, Eugène Pleasants. *Fundamentos de Ecologia*. Tradução de Antônio Manuel de Azevedo Gomes. 7. ed. Lisboa: Fundação Calouste Gulbenkian, 2004. p. 11.

32 ODUM, Eugène Pleasants. *Fundamentos de Ecologia*. Tradução de Antônio Manuel de Azevedo Gomes. 7. ed. Lisboa: Fundação Calouste Gulbenkian, 2004. p. 51.

33 “uma mudança, ainda que ligeira, pode eventualmente produzir efeitos de grandes consequências. Também haverá muitas ocasiões para constatar que *um controlo homeostático verdadeiramente bom apenas ocorre depois de um período de ajustamento evolutivo. [...] a humanidade tornou-se gradualmente no organismo mais poderoso no que respeita à capacidade de modificar o funcionamento de ecossistemas*. ODUM, Eugène Pleasants. *Fundamentos de Ecologia*. Tradução de Antônio Manuel de

Until recently mankind was assured of gas exchange, water purification, nutrient cycling and other protective functions of self-sustaining ecosystems, that is, until the number of humans and their manipulations of the environment became large enough to affect regional and global balances³⁴.

Thus, although there is a tendency for self-regulation and balance maintenance, the change in the environment may be due to natural causes, and the imbalance is not always harmful or something to be combated. What should be targeted is human action that alters environmental properties to the point of impairing their functional capacity or the possibility of exploitation by man within the broader anthropocentric view mentioned above. The scope of protection corresponds, therefore, to the protection of the environment against damage, in a preventive and reparative manner, which does not, as a rule, dispense with the finding of adversity by a professional with the necessary technical knowledge.

Now, we will analyze the way other countries have dealt with environment damage. We will study, specifically, the case of Japan which is a pioneer in defending the environment from destruction.

5 Environmental law in Japan

As an introduction to environmental damage, we have to mention environmental law in Japan at first. This is because environmental law is closely related to the notion of environmental damage.

5.1 Emergence of the environmental law

Environmental law was advocated for the first time in 1970 in an international symposium in Tokyo as the right to defend the environment from destruction and enjoy a sound and abundant environment. It is related to sec.3 of Basic Environment Act though the Act has no provisions to express this right clearly.

This right has been admitted by Constitutional Law doctrines based on sec.13 (rights to liberty) and 25 (social rights) of Constitutional Law. However, this right has not been admitted in judgments though it has been asserted by plaintiffs in litigations as a private right or a control right and as a foundation of civil injunction.

Recently two points have been added to the discussion of this right.

Firstly, landscape interest was admitted as a “legally protected interest” of

Azevedo Gomes. 7. ed. Lisboa: Fundação Calouste Gulbenkian, 2004. p. 53.

34 ODUM, Eugène Pleasants. *Fundamentos de Ecologia*. Tradução de Antônio Manuel de Azevedo Gomes. 7. ed. Lisboa: Fundação Calouste Gulbenkian, 2004. p. 429.

Civil Code sec. 709 under certain conditions by the Supreme Court in the Kunitachi Landscape Case³⁵.

Secondly, regarding environmental law in Public Law, the focus has been not only on its liberty right aspect and social right aspect but also on its participation right aspect resulting from the Aarhus Convention.

Environmental law has two aspects: that of the right in litigations and that of the idea of environmental law. These two aspects intermingle. In this paper, we will write about the aspect of the idea of environmental law.

5.2 Three types of the environmental law based on constitutional law

As we mentioned above, traditionally this right has been admitted by Constitutional Law doctrines based on sec.13 and 25 of Constitutional Law. Sec.13 provides the right to the pursuit of happiness and sec.25 provides the right to life. Recently in Japan it is pointed out that the environmental law as the “right to liberty” based on sec.13 of Constitutional Law is not so important because the personal right as a right to liberty has been admitted by courts and the exercise of the environmental law separated from personal right is, strictly speaking, not a genuine exercise of “right” but the pursuit of the public interest. It is also pointed out that the environmental law as the “social right” based on sec.25 of Constitutional Law is not so important because this right is very abstract and the discretion of the Diet is very broad. On the other hand, quite a few professors insist that the environmental law has an aspect of the “right to participation” in the process of legislation and administration³⁶.

Currently, the environmental law as the “right to participation” should be stressed. From the international perspective, it has been introduced by the Aarhus Convention. This type of environmental law is to be considered “the procedural aspect of environmental right”. In Japan, it is also provided by the Basic Environmental Ordinances of Tokyo Metropolis, Osaka Prefecture and Kawasaki City. I assert that this kind of environmental right is interpreted as freedom of expression that is provided by sec.21 (1) of Constitutional Law.

In our opinion, the environmental law as the right to liberty is still valuable to express rights such as the right to landscape and right to seashore. The environmental law as the social right is also still useful in the situations where maintaining the minimum level of a healthy and cultural life is difficult such as the situation of Minamata Disease³⁷.

35 Supreme Court Decision of 30 March 2006; *Collection of Civil Precedents of the Supreme Court*, vol. 60, no. 3, p. 948: Kunitachi Landscape Case.

36 Takemichi Hatakeyama (2003) “Environmental Right, and Environment and Information/ Participation”, *Hogaku Kyoshitsu*, vol. 269, p.17.

37 TADASHI OTSUKA (2010), *ENVIRONMENTAL LAW*, p.58.

In conclusion, currently, regarding the environmental law based on Japanese Constitutional Law, the aspect of “right to participation” has gained importance. However, the aspect of “right to liberty” and that of “social right” are still valuable.

We would like to introduce two points regarding recent developments in environmental law in Japan.

Teilhabe right (Recht auf Teilhabe) to the environment: according to Prof. Kazuhiko Matsumoto, environmental law consists of 1) personal environmental right, 2) Teilhabe right to the environment, 3) procedural participation right to the environment, and 4) environmental right as a right to self-determination³⁸. The Teilhabe right to the environment, e.g. right to sunlight, right to ventilation and right to landscape, is the right to equally access the environmental public interest. In our opinion, this equality right in accessing the environmental public interest suggests deciding the scope of the environment (i.e. the tolerability limits) protected by the fundamental environmental law in sec. 225 of the Brazilian Constitutional Law.

Environmental order theory: Professor Harashima proposed the environmental order theory in 1980. According to him, the right for injunction against environmental impairment is not based on the fact that the environment in a specific area belongs to the residents, but on the fact that the contractor’s act violates the legal norm regarding the environmental conservation order or environmental utilization order³⁹.

On Dec. 18th 2002, Tokyo District Court issued a judgment regarding the protection of a landscape. This judgment was influenced by this theory. According to this judgment, there are two types of landscapes. The landscape only enjoyed passively and the landscape that was created by the continuous efforts of landowners with their understanding, unity and self-sacrifice. The latter is called “the landscape created together”. The judgment asserted that the landscape in Kunitachi is the latter, and landowners have both the duty to maintain the well-designed landscape by themselves (i.e. limit the height of all buildings to twenty meters) and the interest to demand other owners to maintain it. This judgment called the interest “landscape interest” and admitted the injunction demand based on this interest, i.e. it directed the defendant to remove the part of the building over twenty meters. Although this judgment was later cancelled by Tokyo Court of Appeal, it was supported by many professors⁴⁰.

6 Polluter-pays principle and environmental damage in Japan

In the 1970’s, Japan already applied the polluter-pays-principle for the liability and cost allocation for environmental remediation. We may assert that Japan took

38 Kazuhiko Matsumoto (2014), “Protection of the Environment as Protection of Right”, Handai Hogaku, vol.64.3=4. p. 861.

39 Shigeyoshi Harashima (1980), “Development and Injunction Demand”, Kyudai Hosei Kenkyu vol. 46, 2-4, p. 286.

40 KATSUMI YOSHIDA (2011), Environmental order and public-private cooperation, p. 80.

this position thirty years before the adoption of Environmental Liability Directive in EU (Directive 2004/35/EC). On the matter of environmental remediation, Japanese environmental law has two approaches to when the polluter-pays-principle should be applied. One is public works approach and the other is regulatory approach.

Environmental damage can be two types: (1) Damage in general which is caused by environmental impacts (environmental damage in the broad sense), and (2) damage which is caused by environmental impacts but which is not damage related to personal gain or financial gain (the narrow sense). International law often uses “environmental damage” in the sense of type 1. Type 2 is environmental damage minus traditional damage (damage to the environment itself, pure environmental damage). While, in the West, mainly type 2 is debated especially in EU Environmental Liability Directive, Japanese law has had no provisions for environmental damage for type 2 until very recently.

However, Japan has a widespread system of the liability and cost allocation for environmental damage in individual environmental laws. We also have to mention that, in 2017, the modified Cartagena Act in Japan seems to have introduced the notion of “Biodiversity damage” based on the Nagoya-Kuala Lumpur Supplementary Protocol adopted in Nagoya at the fifth COP of Cartagena Protocol.

(2) From this perspective, this paper will first provide an overview of the Japanese legal system of the liability and cost allocation for environmental damage (part 3), and finally go into the need for Japan to introduce a system on liability for environmental damage (part 4).

7 The Japanese legal system of the liability and cost allocation for environmental damage

7.1 Public-works type polluter-pays-system

(1) On the liability and cost allocation for environmental damage, the Basic Environment Act prescribes that the national and local governments implement projects to prevent pollution or hindrances to conservation of the natural environment, and that authorities shall take the measures needed so that entities which made the projects necessary will shoulder all or part of the costs required by those projects (section 37). This section is understood to be the program provision which summarizes the (public-works type) polluter-pays system of the environmental law system.

This section is realized by the Pollution Control Public Works Cost Allocation Act. In addition to this Act, other laws have provisions on polluter cost payment as ways of recovering the costs of public works implemented by the national and local governments or other entities. Those laws are the Nature Conservation Act (Sec. 37),

Natural Parks Act (Sec. 47), River Act (Sec. 67), Port and Harbor Act (Sec. 43.3), Act Relating to the Prevention of Marine Pollution and Maritime Disaster (Sec. 41.1 and 42.27), and the Invasive Alien Species Act (sec. 16). The provisions of those laws from the Nature Conservation Act to the Port and Harbor Act are, more or less, the same and provide that the costs necessary for projects or construction can be paid by the violators. The Invasive Alien Species Act provides that when it becomes necessary for the competent minister or other entity to take preventive action against invasive alien species, the violator is required to pay the cost.

The Pollution Control Public Works Cost Allocation Act and the Act Relating to the Prevention of Marine Pollution and Maritime Disaster will be treated briefly later.

(2) The 1970 Pollution Control Public Works Cost Allocation Act (Cost Allocation Act) has a more or less comprehensive system on the allocation of costs for pollution-related projects. Under this system, when pollution is caused by businesses, the national or local government carries out projects to control it (“pollution-control public works”), and the businesses (polluters) are required to pay all or part of the project costs. Pollution-control public works covered by the law include: (1) installation and management of green buffer zones or other facilities, (2) dredging, water conveyance, and other work for rivers, lakes, harbors or other places, (3) soil replacement of contaminated farmland or dioxin-contaminated soil, and rebuilding of contaminated farm facilities and other facilities, (4) construction of specified sewerage and other facilities, and (5) moving residences away from factories and other businesses, and work such as soundproofing in schools and other public facilities (Sec. 2.2). Items 1 through 3 have accounted for nearly all such public works. By nature, this cost allocation is an example of “polluter- pays-principle” as a kind of “personal public levy”. Although these works are for controlling “pollution” (see the Basic Environment Act, Sec. 2.3), especially in the case of item 2, this is not only remediation related to “damage to human health” and “damage to people’s living environment”, but also remediation related to damage to areas such as “rivers, lakes, and ports” (Cost Allocation Act, Sec. 2.2.2).

Although the Cost Allocation Act has no such specific provisions, it is understood that the liability without fault and the retroactive liability⁴¹ are required for imposing these costs on businesses (Nagoya District Court decision of 29 September 1986 Hanrei Jiho, no. 1217, p. 46).

(3) If a large amount of oil or hazardous liquid is discharged into the ocean, the manager of the discharging ship or facility must immediately take emergency measures and preventive measures. If preventive measures are not taken, the director-general of the Maritime Safety Agency may order that such measures be taken (Marine Pollution Act, Sec. 39). When the entity that should enact such measures fails to do

41 Liability that exists even for acts committed before the law was enacted.

so, or when it is deemed that the measures enacted by the said entity are inadequate to prevent marine pollution, and the director-general of the Maritime Safety Agency has implemented the necessary measures, the director-general may require the owners of the ship or facility to pay the costs of those measures (sec. 41(1) and sec. 42-27).

On civil liability for oil spills, the Act on Liability for Oil Pollution Damage by Ships imposes liability without fault on the owners of tankers that cause oil spill damage (Sec. 3), based on the International Convention on Civil Liability for Oil Pollution Damage (adopted in 1969, amended by a 1992 protocol). Oil damage includes not only the profit loss by those in the fishing and tourism industries and the cost for repairs of broken objects, but also the cost for environmental recovery.

There are similar problems with nuclear damage. Although not yet ratified by Japan, the amended Vienna Convention (Sec. 1.1 (k) (iv)) and the amended Paris Convention (Sec. 1 a) vii) 4.) include the costs of remediating contaminated environments in the “nuclear damage” that should be compensated.

In 2014 Japan ratified the Annex Convention on Supplementary Compensation for Nuclear Damage. Under this Convention compensation in respect of nuclear damage per nuclear incident shall be ensured (sec.3 (1)). “Nuclear Damage” in this Convention (sec.1 (6)) includes not only “1) loss of life or personal injury and 2) loss of or damage to property” but also “each of the following to the extent determined by the law of the competent court”:

“4) the costs of measures of reinstatement of impaired environment, unless such impairment is insignificant, if such measures are actually taken or to be taken, and insofar as not included in sub-paragraph 2);

5) loss of income deriving from an economic interest in any use or enjoyment of the environment, incurred as a result of a significant impairment of that environment, and insofar as not included in sub-paragraph 2);

6) the costs of preventive measures, and further loss or damage caused by such measures;

7) any other economic loss, other than any caused by the impairment of the environment, if permitted by the general law on civil liability of the competent court”. (We omitted item 3).

Although Japanese law has no provision for environmental damage and the Supreme court has not admitted environmental damage yet, under the “Special Measures Act for Coping with the Environmental Contamination due to Radioactive Substances”, the land contaminated with radioactive substances was cleaned up by the administration and the clean-up cost, item 4), has been shouldered by the polluter, Tokyo Electric Power Company. Moreover, items 4), 5) and 6) above are partially compensated by some district court judgments and through the Intermediate Guidelines issued for the Fukushima Daiichi Nuclear Power Plant Accident by the Nuclear Compensation Dispute Committee since 2011.

(4) The above concerns only recovering the costs of environmental remediation, but we can assume that dredging and other work in areas such as rivers and ports under the Cost Allocation Act include environmental damage.

7.2 Regulatory-type polluter-pays systems

At the same time, there are many environmental laws which establish regulatory-type polluter-pays systems.

(1) Under the Natural Parks Act (sec. 34 (1)), Nature Conservation Act (sec. 18(1), 30, and sec. 46(2)), and the **Protection and Control of Wild Birds and Mammals and Hunting Management Act** (Sec. 30(2)), the Minister of the Environment or prefectural governors may order persons, who in designated areas commit acts without obtaining the requisite permission, or commit certain acts in violation of the conditions of the permission obtained, to cease, to perform restoration to the original condition, or, if restoration is very difficult, to implement “alternative measures” (in similar situations the Act for the Conservation of Endangered Species of Wild Fauna and Flora, Sec. 40 (2), allows orders for restoration measures or other necessary measures). Whether the original condition has been restored or not is judged from the perspective of what is generally considered acceptable. “Alternative measures” mean restoring to a natural state that is close to the original condition. In the case of alien fauna and flora imported to Japan illegally, the Minister of Economy, Trade and Industry is empowered to order the importer to return them to their countries of origin (Act for the Conservation of Endangered Species of Wild Fauna and Flora, Sec. 16(1)).

In situations when the Minister of the Environment or prefectural governor is willing to order restoration or alternative measures, and through no fault of the authority it is impossible to know with certainty which entity should be ordered to perform the restoration and other measures, they may perform the restoration and other measures at the entity’s expense if they find the entity later. (Natural Parks Act, Sec. 34(2); **Protection and Control of Wild Birds and Mammals and Hunting Management Act**, sec. 30(3); The Act for the Conservation of Endangered Species of Wild Fauna and Flora sec. 40(3))

(2) There are also provisions on orders for restoration measures in the case of groundwater contamination (Water Pollution Control Act, sec. 14.3), soil contamination (Soil Contamination Remediation Act, sec. 7), and the improper disposal of wastes (Wastes Disposal and Public Cleansing Act, sec. 19.4 and following sections).

7.3 Lawsuits on remedying the environmental damage

Civil lawsuits have been used in disputes over remedying the environmental damage in situations where the legal benefit of individuals is arguably not involved.

Such disputes have occurred in the context of demands for injunctions based on environmental rights. However, courts have not recognized these demands.

Although there is a trend, due to the 2004 amendment of the Administrative Litigation Act, toward an expansion of plaintiff standing with respect to cancellation lawsuits (Sec. 9), the Supreme Court still demands that the plaintiffs have interests which are difficult to absorb into the public interest (Supreme Court Grand Bench Decision of 7 December 2005; Collection of Civil Precedents of the Supreme Court, vol. 59, no. 10, p. 2645: Odakyu Case). Regarding restoration to the original state after environmental damage occurs, the requirement of standing will perhaps be the biggest issue in administrative cancellation lawsuits, administrative mandamus actions (sec. 37.3 and sec. 37.4), and administrative injunction lawsuits (sec. 37-4.3 and sec. 37-4.4). Academic theory since amendment of the Act now holds that, concerning situations where the plaintiff standing of individuals is difficult to recognize, it is necessary to make a legislation for group (NGO) suits, and that consideration should be given to how collective interests are secured through the implementation of the amended Act.

With lawsuits against local governments by citizens, on the other hand, subrogation for payment demands by municipalities to businesses was an issue in connection with the Cost Allocation Act. In other words, when the executor of pollution control public works, i.e. the national or a local government, implements the project, it is at the discretion of the executor whether charge businesses for the costs under the Cost Allocation Act or not. However, when there is clearly a business that conducts or is definitely recognized as conducting the business activities which are the cause of pollution for which the pollution control public works are undertaken, and the local government does not impose the costs on that business, this situation is subject to a lawsuit against local governments by citizens. In a judicial precedent, a court ruled that, by means of the subrogation claim in Former Sec. 242-2(1) No.4 of the Local Government Act, citizens could demand, from a wastewater discharger, compensation for damage incurred because the municipality illegally neglected to exercise its right to demand payment from the wastewater discharger responsible for sludge accumulation in rivers and bays (Supreme Court decision of 13 July 1982; Collection of Civil Precedents of the Supreme Court, vol. 36, no. 6, p. 970: Tagonoura Sludge Case).

7.4 Section summary

The following two points can be made from the above.

First, even though only damage to human health and the human living environment is covered by pollution laws, damage to human living environment overlaps with damage to the natural environment. The human living environment is construed broadly, especially in the case of remedial measures for the water environment. Further, oil spill damage in the Act on Liability for Ship Oil Pollution

Damage includes environmental damage. What is more, nature-related adverse impacts other than pollution are not at all limited to damage to the human living environment.

Second, in some ways environmental damage lawsuits are even now hard to bring as “subjective lawsuits”, lawsuits regarding individual interests. Of course, legislation for group lawsuits would probably bring great changes in this area.

7.5 The significance of introducing liability for environmental damage in Japan

Introducing liability for environmental damage comprehensively seems to be very significant.

First, from the perspective of rigorously implementing the polluter-pays principle and internalizing externalities, it is necessary that the government not just recover the costs of remediation regardless of the level of remediation, but first accurately judge to some extent the externalities and then have remediation performed, or make the polluter pay the costs. The environmental damage theory satisfies this kind of requirement.

Second, rigorously implementing this polluter-pays principle induces polluters to rigorously implement prevention of environment-related damage.

Third, unlike the perspective which sees environment impairment by sanctions against illegal acts, gaining the perspective of the environmental damage liability allows us to comprehensively understand the environment-related damage.

Fourth, calculating environmental damage forms the basis for cost–benefit analyses of environmental policy. This is important in relation to policy assessment.

Fifth, if a law is enacted on liability for environmental damage, there are expectations that it will be possible to establish in a uniform manner the requirements for imposing obligations for prevention and remediation, and to establish consistency among the currently varied provisions for cost allocation.

8 Conclusion

The different approaches to environmental issues bring their contributions to the understanding of the Constitution. Thus, it appears that the conceptualization of the environment, although important, is notoriously insufficient to know the portion of reality that is protected by the norm. Nevertheless, as previously stated, the generic terms enshrined in art. 3, I, of the National Environmental Policy Law are compatible with the Constitution, and art. 225 of the Charter aims at preserving the natural, artificial and cultural environment. But it is of little use only to know what the environment is for the effectiveness of the constitutional norm, since there is a clear

choice to protect the quality of the balanced ecosystem. The Japanese legislation on this respect brings an interesting approach to our discussion, specially at introducing the environmental right closely related to environmental damage.

Understanding the environmental good is also unsatisfactory to understand the scope of protection of the fundamental right to environmental ecological balance. This is because the environmental good identifies with the law, that is, it is an immaterial concept which benefit for environmental theory is to provide an object for the environmental legal relations and the support of the fundamental positions that derive from it.

On the other hand, environmental damage is a very important institute for defining the portion of reality that is protected by the Major Law in the provisions of art. 225. It is worth remembering that, in the list of lessons imported from ecology, homeostasis corresponds to the self-regulating capacity of the ecological balance. Therefore, it is legitimate to assume that, unless environmental quality is impaired, all fundamental rights holders will be regularly enjoying the right, even if they are not oblivious to the existence of other key positions arising there from, such as environmental law organization and procedure, as well as the need to prevent and protect against damage. That is why it is argued that the scope of protection of the constitutional norm that enshrines the fundamental right amounts to the prohibition of environmental damage, preserving the functional ecological capacity of the environment and its viability for human use; the Constitution is violated when there is an environmental change that exceeds the tolerability limit. The Japanese Legal System of the Liability and Cost Allocation for Environmental Damage is a good example which shows how other countries have deal with environmental damage.

However, the analysis of the literature in the field of ecology shows that it is not the legislator who can fix in the abstract all situations of injury, and that even compliance with the rules emanating from the technical bodies of public administration cannot guarantee the absence of damage. Also, it will be very difficult for the magistrate to find out the damage, its extent and how to repair it. As Odum teaches, “the study of nature gives much evidence of how quality [sic] controls can be established⁴²”. However, even those who have the necessary scientific knowledge do not set in advance the tolerability limit of a certain adverse change in the quality of the environment caused by human action, such reason leads us to conclude that the identification of the damage is done, in the specific case, through technical evaluation of the professional trained to assess its occurrence and the best way to recover the quality of the environment. It is necessary to consider the experience of countries as Japan which has been a pioneer in legislating and applying public policies and setting judicial precedents where citizens were able to demand compensation for damage incurred.

42 ODUM, Eugène Pleasants. *Fundamentos de Ecologia*. Tradução de Antônio Manuel de Azevedo Gomes. 7. ed. Lisboa: Fundação Calouste Gulbenkian, 2004. p. 34.

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