The double failure of environmental regulation and deregulation and the need for ecological law

Massimiliano **Montini**

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Massimiliano Montini
R4S - Regulation for Sustainability Research Group
Department of Business and Law
University of Siena
massimiliano.montini@gmail.com

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Massimiliano Montini

Abstract

The evolution of environmental law in the last few decades has developed along two main phases, which correspond to two opposed and sometimes conflicting trends.

The first phase, which may be identified with the "environmental regulatory trend", has been characterised by the attempt to protect the environment by addressing and managing the negative externalities caused on the environment by the unrestrained growth promoted by the currently dominant economic model. Such a regulatory trend, despite producing an enormous corpus of legislation, has shown many deficiencies. The shortcomings of the environmental regulation trend have therefore paved the way for the advent of the second phase, characterised by an "environmental deregulatory trend", which has promoted a shift towards the progressive revision of the existing legislation, with a view to simplify and streamline it. Unfortunately, both approaches have led to a substantial failure.

The aim of the present paper is to analyse the double failure of environmental regulation and deregulation and to promote a possible way out. This is identified in the need to revise the current regulatory regime for environmental protection and to promote a shift towards a new ecologically based approach to the law, which should primarily aim at the protection of the health and integrity of the ecosystems which support life on Earth. Moreover, in order to signal the decisive shift that the new approach should mark, a corresponding change in the name of the law aimed at the protection of the environment and the ecosystems will be proposed: from environmental law to ecological law.

Keywords: *environmental law, regulation, deregulation, nature, ecological sustainability, ecological law*

The double failure of environmental regulation and deregulation and the need for ecological law

Massimiliano Montini

1. INTRODUCTION

The present paper discusses the double failure of environmental law that occurred in the last few decades. In the course of the evolution of environmental law, both internationally and nationally in most jurisdictions, two main phases can be detected, which correspond to two opposed and sometimes conflicting trends.

The first phase, which may be identified with the "environmental regulatory trend", has been characterised by the attempt to protect the environment through the adoption of a huge amount of environmental legislation. In such a context, environmental regulation has generally aimed to address and manage the negative externalities caused on the environment by the unrestrained growth promoted by the currently dominant economic model. However, the regulatory trend, despite producing an enormous (and even overabundant) *corpus* of legislation, has shown many deficiencies, mainly related to the excessive bureaucratisation of environmental procedures and the lack of an effective environmental protection.

The observed shortcomings of the environmental regulation trend have therefore paved the way for the advent of the second phase, characterised by an "environmental deregulatory trend". In such a context, arguing on the basis of the fallacies of environmental regulation, the promoters and supporters of such a new trend have encouraged the attempt to tackle the failures of the (previously adopted) environmental legislation by promoting a shift towards the progressive

revision of the existing legislation, with the purpose to simplify and streamline it. Such a trend has been strongly advocated by the business sector and apparently has not been questioned by policy-makers and the civil society at large.

Unfortunately, both approaches have led to a substantial failure. This is demonstrated by the fact that, despite the huge amount of environmental legislation presently in place, the quality of the environmental conditions, both at a global scale as well as a local scale, is characterised by a continuous negative trend, which should be probably more aptly called a progressive decline. The main aim of the present paper is therefore to analyse the double failure of environmental regulation and deregulation and to propose a possible way out. To this effect, the paper will firstly focus on the analysis of the failure of both the regulatory and the deregulatory trends. Then, it will argue that the observed double failure is closely related to the lack of effectiveness of environmental law and will identify and discuss the two main causes of such a phenomenon. Finally, on the basis of the findings of the previous analysis, a possible solution will be proposed. This will be identified in the need to revise the current regulatory regime for environmental protection and to promote a shift towards a new ecologically based approach to the law. The new ecologically oriented regulatory regime should primarily aim at the protection of the health and integrity of the ecosystems which support life on Earth. Moreover, in order to signal the decisive shift that the new approach should mark, a corresponding change in the name of the law aimed at the protection of the environment and the ecosystems will be proposed: from environmental law to ecological law.

2. THE FAILURE OF ENVIRONMENTAL REGULATION

If one looks at the origin of environmental law in the first jurisdictions where it was conceived and developed, namely the United States (US) and the European Union (EU), it clearly emerges that environmental law started as a series of legislative responses to several environmental emergencies which became evident from the 60s-70s of last century onwards. Initially, such emergencies had predominantly a local or a national nature and just in a few cases were characterised by a transboundary dimension, insofar they mostly dealt with the

so-called traditional forms of pollution, which consisted in the negative effects caused by economic activities on basic environmental media, such as air, water and soil.

With regard to national environmental law experiences, initially, the focus was mainly on the adoption of the so-called vertical legislation, dealing with various environmental issues, related to air, water or waste, in a sectorial and separated way. During such a phase the first environmental protection acts were adopted. For instance, in the US, the first general federal acts for the protection from air pollution and for water pollution control were adopted in the 60s-70s.[1] Similarly, in the EU, the first framework environmental directives on water protection, waste management and air pollution control were adopted in the 70s-80s.[2] Through the years, alongside the development of vertical legislation, environmental legislation started to focus also on the adoption of the so-called horizontal legislation, dealing with environmental problems of a cross-cutting nature, such as those related to the realisation of projects which may cause negative effects on the environment. During such a phase, the Environmental Impact Assessment (EIA) legislation, which is the pioneering type of legislation with a horizontal dimension, was adopted, firstly in the US[3] and then in the EU.[4]

In parallel, some international agreements were signed in order to deal with the major environmental problems characterised by a prominent and specific transnational pollution dimension. The most notable example in this sense is

1 In the US, the first federal general act for the protection for air pollution was adopted in 1963 (US Clean Air Act of 1963), while the first federal general act for water pollution control was adopted in 1972 (US Clean Water Act of 1972). On US environmental law in general see R. V. Percival, C. H. Schroeder, A. S. Miller & J. P. Leape, Environmental Regulation: Law, Science, and Policy, 7th ed., Aspen Publishers, New York, 2013.

2 In the European Union (formerly European Community), the first framework Directive for waste management was adopted in 1975 (Directive 75/442/EC), the first framework Directive on water protection in 1976 (Directive 76/464/EC), while the first Directive on combating air pollution from industrial plants was adopted in 1984 (Directive 84/360/EC). On EU environmental law in general see L. Kramer, EU Environmental Law, 7th ed., Sweet and Maxwell, 2012; J. Jans, European Environmental Law, 2nd ed., Europa Law Publishing, 2000.

3 See US National Environmental Policy Act of 1969, which introduced EIA procedures in USA at federal level.

4 See EC Directive 85/337/EC (EIA Directive), which introduced EIA procedures in the European Union.

represented by the 1979 *UNECE Convention on Long Range Transboundary Air Pollution*, which was adopted for tackling trasnboundary air pollution and limit the related acid rain problem.[5]

In the meantime, starting from the 70s-80s of last century, different kinds of environmental problems and other types of pollution and environmental degradation started to emerge. They are well exemplified by the depletion of ozone layer and the climate change challenge.[6] Such global emergencies differed from the previously mentioned environmental emergencies, insofar they had a prominent and well defined global dimension. For this reason they were addressed by the international community through the adoption of several dedicated multilateral environmental agreements with a global participation, which were then followed by related national implementing measures and initiatives.[7]

Despite the different nature of the national and transnational environmental issues on the one side, and of the global environmental issues on the other side, it may be said that the approach taken to address such different typologies of problems was substantially the same. It essentially consisted in the assumption that environmental emergencies should be tackled by managing the environmental externalities caused by the relevant economic activities. There is, however, in my opinion, a major inherent problem with the adoption of such an "externalities solving" approach. It is related to the fact that it tends to accept, in a completely uncritical way, the mind-set, the objectives and the initiatives undertaken by the States and the business sector on the basis of the currently dominant neo-classical

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5 The 1979 UNECE *Convention on Long Range Transboundary Air Pollution*, commonly referred to as LRTAP Convention, had a limited geographical scope (covering Europe and North America only), but has represented a model for other regions of the world facing the same transboundary air pollution problems as well as for subsequent global treaties concerned with ozone depletion and climate change. On the LRTAP Convention see for instance P. Sands and J. Peel, Principles of International Environmental Law, 3rd. ed., Cambridge Univ. Press, 2012, p. 246-257.

6 The depletion of ozone layer and the climate change challenge have been respectively addressed on the one side by the Vienna Convention for the Protection of the Ozone Layer (1985) and the related Montreal Protocol on Substances that Deplete the Ozone Layer (1987) and on the other side by the United Nations Framework Convention on Climate Change (1992) and the related Kyoto Protocol (1997) and Paris Agreement (2015).

7 See for instance P. Sands and J. Peel, Principles of International Environmental Law, 3rd. ed., cit., p. 262-274 (on ozone depletion) and p. 274-299 (on climate change). On the recent Paris Agreement see for instance M. Montini, The Paris Agreement on Climate Change: Miracle or Disaster?, in Environmental Liability, 2015, p. 161-166.

economic model. Unfortunately, the neo-classical economic model, which is largely influenced by the growth paradigm, has two major shortcomings. On the one side, it promotes the pursuit of a limitless growth on the limited Planet Earth, which is physically impossible, as aptly demonstrated in the relevant scientific literature.[8] On the other side, it considers the maximisation of profits and the increase of the national as well as global GDP as its main and foremost objective, irrespective of the possible negative consequences which may derive from an environmental (and social) point of view.[9] In such a context, environmental regulation is substantially conceived as a tool to address and manage the most relevant environmental externalities which tend to emerge, without questioning the continued application of such a dominant economic paradigm.

It may have been reasonably expected that the huge amount of environmental legislation that has been adopted and is currently applied in most jurisdictions should have logically led to an improvement of the environmental conditions around the world. However, this was not the case, as it is well demonstrated by the findings of many reports and studies, which in fact highlight the progressive deterioration of the environmental quality at the global as well as at the local level.[10] This explains the substantial failure of environmental regulation. Such a failure consists in the fact that the more environmental legislation is passed and then implemented in most jurisdictions, the more the environmental quality seems to decline, due to an excessive bureaucratisation of environmental procedures, which often entail a rather "formalistic" approach and fail to promote an effective

8 On the impossibility of a limitless growth on the limited Planet Earth see, for instance, H. E. Daly, *Beyond Growth. The Economics of Sustainable Development*, Beacon Press, 1996; see also C. J. Cleveland e M. Ruth, *When, Where, and by How Much Do Biophysical Limits Constrain the Economic Process? A Survey of Nicholas Georgescu-Roegen's Contribution to Ecological Economics*, in Ecological Economics, 1997, vol. 22, pp. 203 ss; H. E. Daly, *The Economic Growth Debate: What Some Economists Have Learned But Many Have Not*, in Journal of Environmental Economics and Management, 1987, vol. 14, fasc. 4, pp. 323-336, in particular p. 325; E. Tiezzi, Tempi storici. Tempi biologici, Garzanti, 1984.

9 On this issue see A. AtKisson, *Life Beyond Growth. Alternatives and Complements to GDP-Measured Growth as a Framing Concept for Social Progress*, 2012 Annual Survey Report of the Institute for Studies in Happiness, Economy, and Society — ISHES, Tokyo, Japan, 2012; Communication from the Commission to the Council and the European Parliament, *GDP and beyond: measuring progress in a changing world,* COM(2009)433; R. Costanza, M. Hart, S. Posner & J. Talberth, *Beyond GDP: The Need for New Measures of Progress*, The Pardee Papers n. 4, Boston University, January 2009; E. Schokkaert & K. Decancq, *Beyond GDP. Measuring Social Progress in Europe*, KU Leuven Euroforum, 2013.

10 See, for instance, the findings of the UNEP Fifth Global Environment Outlook (GEO 5 Report) (2012).

and substantial environmental protection. This unintentional and unexpected "side-effect" of the "environmental regulation trend" should be termed, in my opinion, the "environmental regulation paradox". The emergence of such a paradox may appear at a first glance as a complete surprise. There is, however, in my view, a relatively simple explanation for such a failure of environmental regulation and the emergence of the environmental regulation paradox. It is related to the fact that environmental regulation, as conceived and applied so far, refers to a legal regime simply conceived with the aim to manage negative environmental externalities, without influencing the deployment and the continued unquestioned application of the currently dominant neo-classical economic model, which is substantially based on the "growth mania".[11] For the reasons explained above, I am convinced that such an environmental legislation reference framework is inherently and inevitably destined to lead to a failure and is directly responsible for the observed paradox of environmental regulation.

3. THE FAILURE OF ENVIRONMENTAL DEREGULATION

Despite the existing evidence, so far there has been no sufficiently clear perception of the real causes of the failure of environmental regulation and of the emergence of the environmental regulation paradox. These consist firstly and foremost in the emergency-response approach adopted to tackle and manage the main causes and effects of environmental degradation, in the absence of a unitary and comprehensive long-term vision. It is within such a context that, arguing on the basis of the observed fallacies of environmental regulation, a widespread quest for a substantial revision of the existing environmental regulation with a view towards a progressive environmental deregulation has gradually emerged.[12] Such a view, initially proposed by the business sector which lamented the excessive

11 The expression "growth mania" is taken from H. E. Daly, *Beyond Growth*, cit., p. 33.

12 On environmental deregulation and its risks see K. Bosselmann & B. J. Richardson, *Introduction: New Challenges for Environmental Law and Policy*, in K. Bosselmann e B. J. Richardson (eds.), *Environmental Justice and Market Mechanisms*, Kluwer Law International, 1999, pp. 3-18, in particular pp. 3-4; E. Rehbinder, *States Between Economic Deregulation and Environmental Responsibility*, in K. Bosselmann & B. J. Richardson (eds.), *Environmental Justice and Market Mechanisms*, cit., pp. 93-109.

bureaucratisation of environmental procedures already mentioned above, encountered a certain favour among many policy-makers, who welcomed the possibility to boost business activities, by reducing *inter alia* bureaucracy in the area of environmental regulation. In fact, the deregulatory trend called for the progressive revision of all the existing environmental legislation, with a view to simplify and streamline it. The promoters and the supporters of such a trend proposed a widespread move towards repealing, wherever possible, existing legislation and replace it with less cumbersome environmental legislation, so as to reduce obstacles to business activities.

The environmental deregulation can take many forms, as it has been correctly highlighted by Rehbinder, who identifies four different forms of deregulation: "*deregulation in the strict sense, such as substitution of auto-surveillance for surveillance by the authorities; use of economic instruments of environmental policy, such as charges, taxes and tradable permits; use of flexible instruments that induce self-regulation, such as voluntary agreements, eco-audits and information to the public; privatization of public environmental services*".[13] It is out of the scope of the present paper to provide a detailed analysis of the various concrete forms that environmental deregulation has taken in recent years in the different legal contexts. However, by way of example, I can briefly mention how the environmental deregulatory agenda has developed at the EU level. Within the EU, the deregulation process initially started in 2001, with the adoption European Commission's "Better Regulation" initiative,[14] and was reinforced in 2012 by means of the European Commission's Regulatory Fitness and Performance Programme ("Refit"),[15] launched with the aim "*to establish a simple, clear, stable and predictable regulatory framework for business, workers and citizens, as well as to ensure EU legislation brings benefits at the lowest cost and with the least bureaucracy*".[16] In parallel, some Member States, notably, the Netherlands, Germany and the United Kingdom, promoted in 2014 the initiative "Make it Work", aimed at the establishment of a bottom-up forum for discussing broader,

13 See E. Rehbinder, *States Between Economic Deregulation and Environmental Responsibility*, cit., p. 93.

14 See European Commission, *European Governance: A White Paper*, COM(2001)428.

15 See European Commission, *EU Regulatory Fitness*, COM(2012)746.

16 On the evolution of the European Commission's Better Regulation agenda in the environmental sector see the detailed and up-to-date analysis of the Institute for European Environmental Policy (IEEP), at http://www.ieep.eu/work-areas/environmental-governance/better-regulation/k/better-regulation/

strategic approaches to smarter EU environmental law.[17] All these initiatives share the common objective of reducing the (real or perceived) administrative burdens placed by environmental regulation upon the business sector and thereby increasing economic competitiveness by reducing bureaucracy.

Unfortunately, within the various stains and initiatives of the environmental deregulatory agenda, a fundamental question remained unanswered: is the deregulatory trend compatible with the necessity to maintain an appropriate level of environmental protection? To this respect, it should be noted that the deregulatory trend has not been successfully opposed by NGOs and is often substantially supported by the general public, on the basis of the assumption that environmental regulation has become through the years very bureaucratic and not very effective. The most common view is that the business sector is suffering a competitive disadvantage, particularly in countries where environmental regulation is more developed, such as the EU and the US, if compared with what happens in less regulated jurisdictions. The deregulatory trend is also indirectly helped by the fact that in most jurisdictions characterised by a very developed legal regime, the environmental conditions are often not improving. Therefore, one can observe that in recent years a favourable momentum for a widespread deregulatory trend in environmental legislation has emerged, both internationally and in many national jurisdictions. A good example of such a trend is represented by the 2014 revision of the Environmental Impact Assessment (EIA) Directive at the EU level.[18] The revised directive in fact incorporates many elements of the environmental deregulatory trend and some serious doubts may be casted on its long-term effects, in relation to environmental protection and a correct land planning.[19]

The environmental deregulatory trend is therefore leading to a situation where the specific interests related to the protection of the environment need to be assessed against economic (and competiveness) considerations. As a consequence, it is very likely that following such a trend the environmental quality will be

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17 On the "Make it Work" initiative see the analysis of the Institute for European Environmental Policy (IEEP), at http://www.ieep.eu/work-areas/environmental-governance/better-regulation/make-it-work/home

18 See Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (EIA Directive).

19 For a detailed comment on the revised EU EIA Directive see A. Garcia-Ureta, *Directive 2014/52 on the assessment of environmental effects of projects: new words or more stringent obligations?*, in Environmental Liability, 2014, p. 239-255.

further declining. Therefore, this tendency is clearly leading to another major environmental failure. In fact, as a consequence of the implementation of the environmental deregulatory trend, the more the traditional environmental regulation is revised and streamlined, the higher becomes the risk of a progressive shift towards a reduced level of environmental protection and a general decline in the environmental quality. As a consequence, the expected legacy of the deregulatory trend will be most likely a less efficient environmental protection and a higher level of environmental degradation.

4. THE LACK OF EFFECTIVENESS OF ENVIRONMENTAL LAW

In the previous paragraph, I have described the double failure of environmental regulation and environmental deregulation. Such a phenomenon is closely related to the lack of effectiveness of environmental law. For this reason, it is necessary to have a brief look at such a question, before presenting in the next paragraph a possible solution to the double failure observed and analysed above.

In my view, there are two main causes for the lack of effectiveness of environmental law. The first cause refers to the concept of effectiveness itself. In this respect, I propose to address the issue of the legal effectiveness of environmental law along the conceptual framework proposed by Bodansky, on the basis of Young's research on the meaning of effectiveness in international governance.[20] Such a framework, which has been originally proposed by Bodansky to analyse the effectiveness of international environmental law, can be adapted in my opinion to serve as a general tool-kit to determine the effectiveness of all environmental provisions, whether at national, supranational or international level. The said reference framework identifies three reference meanings of the term effectiveness, which are called legal effectiveness, behavioural effectiveness and

20 See D. Bodansky, The Art and Craft of International Environmental Law, Cambridge (Massachusetts), 2010, pp. 252-258; O. R. Young, International Governance: Protecting the Environment in a Stateless Society, Cornell Univ. Press, Ithaca (New York), 1994, pp. 140-160.

problem-solving effectiveness.[21] The first meaning, namely legal effectiveness, refers to the compliance with a given norm and aims at verifying whether the outcomes of the application of the said norm conform with the given prescription, or, in other terms, whether the formal goal of a certain norm is met in objective terms. The second meaning, namely behavioural effectiveness, analyses, in subjective terms, the capacity of a certain prescription to cause positive changes in the behaviour of the addressees, towards achieving the norm's specific goal. In practical terms, the behavioural change of the addressees may consist in doing what they would not have done otherwise or in terminating their previous behaviour. Finally, the third meaning, namely the problem-solving effectiveness, looks at whether the implementation of a certain prescription effectively helps in achieving its ultimate goal, or in other terms, whether it contributes to manage and solve the environmental issue it purports to address.

With reference to these three meanings of the term effectiveness, it has been correctly noted by Bodansky that normally most of the legal analysis tends to concentrate just on the legal effectiveness of environmental provisions,[22] or in other words on the formal compliance with those norms.[23] For the purpose of the present analysis, the main focus should be placed instead on the third type of meaning, namely the problem-solving effectiveness, in order to try and understand why both the regulatory and the deregulatory trends of environmental law have failed to

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21 See D. Bodansky, The Art and Craft of International Environmental Law, cit., p. 253. It should be noted that Bodansky's framework of analysis (which is followed, with some adaptations, in my analysis) focuses on three different meanings of the term effectiveness (legal effectiveness, behavioural effectiveness and problem-solving effectiveness), while the original Young's analysis had identified six different dimensions of effectiveness, namely effectiveness as problem solving, effectiveness as goal attainment, behavioural effectiveness, process effectiveness, constitutive effectiveness, and evaluative effectiveness. See O. R. Young, International Governance: Protecting the Environment in a Stateless Society, cit., p. 143.

22 See D. Bodansky, The Art and Craft of International Environmental Law, cit., p. 253.

23 See, in general, R. B. Mitchell, *Compliance Theory: Compliance, Effectiveness, and Behaviour Change in International Environmental Law* in D. Bodansky, J. Brunnée J. and E. Hey (eds.), *The Oxford Handbook of International Environmental Law*, Oxford, 2007, p. 893-920. On the compliance with international environmental law see for instance Treves T. et al (eds.), *Non-Compliance Procedures and Mechanisms and the Effectiveness of International Environmental Agreements*, The Hague, 2009; U. Beyerlin, P. T. Stoll & R. Wolfrum (eds.), *Ensuring Compliance with Multilateral Environmental Agreements*, Leiden/Boston, 2006; M. Montini, *Improving Compliance with Multilateral Environmental Agreements through Positive Measures: The Case of the Kyoto Protocol on Climate Change* in A. Kiss, D. Shelton & K. Ishibashi (eds.), *Economic Globalization and Compliance with International Environmental Agreements*, The Hague, 2003, p. 157-179.

prove successful. In this sense, it may be observed that the main reason for the failure of the environmental regulatory trend has been related to its tendency to focus almost exclusively on the legal effectiveness, by promoting and monitoring just the mere (formal) compliance with the norms, without a proper consideration of the final consequences that the behaviours induced or allowed by such norms would entail in terms of an effective environmental protection. Conversely, the main reason for the failure of the deregulatory trend may be related to its narrow focus on the behavioural effectiveness, seen from opposite points of view by the regulators and the regulated entities. For the former ones, in fact, the greater degree of flexibility introduced by the deregulatory trend, for instance through the adoption of economic instruments in place of command and control instruments, could help to facilitate a greater degree of compliance, through a more gradual change in the behaviour of the regulated entities. For the latter ones, quite on the contrary, the greater degree of flexibility induced by the use of economic instruments could make a much less stringent case for the need of the regulated entities to really change their behaviour. It seems therefore to me that the inability of both the regulatory and the deregulatory trends to focus on the problem-solving effectiveness should be considered the main reason for the observed double failure of environmental regulation and deregulation.

The second cause for the lack of effectiveness of environmental law relates to the fact that both the environmental regulation and environmental deregulation trends have been based on the wrong reference object, namely the protection of the environment from the negative externalities caused by economic activities. In fact, the traditional environmental law approach, which has been focusing almost exclusively on the management of the major negative externalities, has fallen short of leading to a satisfactory protection of the environmental media and of aiming, wherever possible, at increasing the environmental quality of those media. Indeed, the implementation of environmental law has contributed through the years to support, validate and reinforce the application of the neo-classical economic model, based on economic growth as a priority objective. In practice, this process has focused on addressing the negative side effects of the targeted economic activities with the aim to minimise them, through both environmental regulation and deregulation. This has been done, however, without any questioning on the continued validity of such a model in a general context where it has become clear through the years that the general environmental situation of Planet Earth is progressively deteriorating, due to the excessive exploitation of natural resources

and the emergence of various man-made forms and types of pollution. As a consequence, environmental law has proven unable to effectively tackle the environmental problems it purported to address and solve.

5. THE NEED FOR ECOLOGICAL LAW

Once explained in the previous paragraphs the origin and the main features of the double failure of environmental regulation and deregulation, as well as their close connection with the phenomenon of the lack of effectiveness of environmental law and its two main causes, it is now time to try and propose a new solution to successfully address the most pressing needs relating to the protection of the environment and the preservation of the ecosystems. On the basis of the analysis conducted above, it emerges that, in order to revise the regulatory regime for the protection of the environment and the ecosystems, it is absolutely necessary to profoundly rethink the approach towards environmental protection and substantially change the objective of protection. In my opinion, this should consist in the continued preservation in a healthy state of all the ecosystems which support life on the Planet.[24] Moreover, such a continued protection should be assumed to be a prerequisite for the flourishing of any form of life.[25] This is also in line with the necessity to respect the planetary boundaries, which are intended as thresholds not to be overcome in order to provide for a safe operating space for human development.[26] If such preconditions are not fulfilled, it will be impossible

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24 See A. Leopold, *A Sand County Almanac*, Oxford University Press, 1949, p. 224, where the following well-known quote is contained, which well exemplifies A. Leopold's Land Ethic: "*A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise*".

25 See S. E. Jørgensen, B. D. Fath, S. N. Nielsen, F. M. Pulselli & S. Bastianoni, *Flourishing within limits to growth*, Earthscan, 2016 and J. R. Ehrenfeld & A. Hoffman, *Flourishing: A Frank Conversation about Sustainability*, Stanford Business Books, 2013.

26 See J. Rockström, W. Steffen, K. Noone, Å. Persson, F. Stuart III Chapin, E. Lambin, T. M. Lenton, M. Scheffer, C. Folke, H. J. Schellnhuber, B. Nykvist, C. A. de Wit, T. Hughes, S. van der Leeuw, H. Rodhe, S. Sörlin, P. K. Snyder, R. Costanza, U. Svedin, M. Falkenmark, L. Karlberg, R. W. Corell, V. J. Fabry, J. Hansen, B. Walker, D. Liverman, K. Richardson, P. Crutzen & J. Foley, *Planetary boundaries: exploring the safe operating space for humanity*, in Ecology and Society, 2009, vol. 14, issue 2, No. 32, at www.ecologyandsociety.org/vol14/iss2/art32/; J. Rockstrom, W. Steffen, K. Noone, Å. Persson, F. Stuart III

to achieve a satisfactory level of environmental protection and ecosystems preservation. As a consequence, in such a context, more economic development will almost inevitably lead to an unsustainable situation, whereby natural resources are relentlessly depleted and the Planet Earth can no longer act as a sink for all the waste and negative environmental consequences which are produced by the several economic activities.

Therefore, what is urgently needed is a very strong change of perspective, based on a systemic paradigm shift. Such a kind of shift, as correctly pointed out by Kuhn, represents the basis for every scientific revolution.[27] A change of vision is, in fact, absolutely necessary to effectively address the progressive environmental degradation, given the proven ineffectiveness of the traditional "externalities solving" approach. More precisely, the new reference paradigm advocated here should be grounded on the prevalence being given to the objective of ensuring a certain "minimum" degree of environmental protection over the competing economic interests, as a prerequisite for human economic and social development. Such a minimum degree of environmental protection required should be identified on a case by case basis, with reference to the fundamental objective of trying to maintain at all times the relevant ecological systems in a good status, so as to protect their continued health and integrity. Within such a context, in my opinion, the concept of ecological sustainability should be relied upon. In fact, such a concept should be recognised a paramount role as a prerequisite for a satisfactory and long-term social and economic development and should be posed at the top of the political agenda. What is then meant by the concept of ecological sustainability?[28] In this respect, it may be said, in brief, that it substantially refers

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Chapin, E. Lambin, T. M. Lenton, M. Scheffer, C. Folke, H. J. Schellnhuber, B. Nykvist, C. A. de Wit, T. Hughes, S. van der Leeuw, H. Rodhe, S. Sörlin, P. K. Snyder, R. Costanza, U. Svedin, M. Falkenmark, L. Karlberg, R. W. Corell, V. J. Fabry, J. Hansen, B. Walker, D. Liverman, K. Richardson, P. Crutzen & J. Foley, *A Safe Operating Space for Humanity*, in Nature, 2009, vol. 461, No. 7263, pp. 472-475. On this issue see also E. Tiezzi, *Tempi storici, tempi biologici*, Donzelli Editore, 2005; H. E. Daly, *Beyond Growth*, cit.; R. Costanza & H. E. Daly, *Natural Capital and Sustainable Development*, in Conservation Biology, 1992, vol. 6, No. 1, pp. 37-46.

27 T. S. Kuhn, The structure of scientific revolutions, University of Chicago Press, Chicago, 1962.

28 On the concept of ecological sustainability see K. Bosselmann, *The principle of sustainability. Transforming law and governance,* Ashgate, 2008, in particular p. 53; M. Montini, *Revising International Environmental law through the Paradigm of Ecological Sustainability*, in F. Lenzerini & A. Vrdoljak (eds.), *International Law for Common Goods: Normative Perspectives in Human Rights, Culture and Nature*, Hart Publishing, Oxford, 2014, p. 271-287, in particular p. 275-280; M. Montini, *Investimenti internazionali, protezione*

to the need for the human civilization to live in harmony with nature and preserve the ecosystems which enable life on Planet Earth and support human development.[29] Without a proper ecological basis, in fact, neither economic, nor social systems may exist and flourish.[30]

By accepting the proposed change of perspective, in my view, it should be possible to promote a new kind of regulation, based on ecological sustainability as a foundational principle,[31] that should emerge from the ashes of the environmental regulation and environmental deregulation experienced so far. The new regulatory regime proposed and advocated here should promote as its primary goal the protection and preservation of the ecosystems which enable life on the Planet and the coexistence of human activities with all other living beings on an equal footing. To this effect, it would find its roots in the respect for nature and any form of life as well as for the integrity of ecosystems promoted by the 1982 World Charter for Nature,[32] in the respect for "Earth and life in all its diversity" advocated by the 2000 Earth Charter,[33] as well as in the recognition for the rights of Mother Earth established, for instance, by the 2010 Bolivian "Law of the Rights of Mother Earth".[34] By so doing, ecological law might become in the future the most relevant tool to enable the human species to flourish on the Planet in

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dell'ambiente e sviluppo sostenibile, Giuffrè Editore, Milano, 2015, in particular p. 248-261.

29 M. Montini, *Revising International Environmental law through the Paradigm of Ecological Sustainability*, in F. Lenzerini & A. Vrdoljak (eds.), *International Law for Common Goods: Normative Perspectives in Human Rights, Culture and Nature*, Hart Publishing, Oxford, 2014, p. 271-287, at p. 275.

30 In this sense, see J. Porritt, who correctly argues that "not only is the pursuit of biophysical sustainability non-negotiable; it's preconditional": J. Porritt, *Capitalism As If The World Matters,* Earthscan, 2007, p. 8.

31 On ecological sustainability as a foundational principle see M. Montini, *Revising International Environmental law through the Paradigm of Ecological Sustainability*, cit, in particular p. 282; K. Bosselmann, *Grounding the Rule of Law*, in C. Voigt (ed.), *Rule of Law for Nature. New Dimensions and Ideas in Environmental Law*, Cambridge University Press, 2013, pp. 75-93, in particular pp. 87-90; S. Westerlund, *Theory for Sustainable Development*, in H. C. Bugge and C. Voigt (eds.), *Sustainable Development in International and National Law*, in H. C. Bugge & Dr. C. Voigt (eds.), *Sustainable Development in National and International Law*, Europa Law Publishing, Groningen, 2008, p. 47-66, in particular p. 60.

32 See UN General Assembly, *World Charter for Nature*, Resolution 37/7 of 28 October 1982, A/RES/37/7.

33 See Earth Charter, 2000, at www.earthcharter.org, and in particular art. 1, that reads as follows: "*1. Respect Earth and life in all its diversity. a. Recognize that all beings are interdependent and every form of life has value regardless of its worth to human beings. b. Affirm faith in the inherent dignity of all human beings and in the intellectual, artistic, ethical, and spiritual potential of humanity*".

harmony and mutual respect with nature, in line with the "Harmony with Nature" approach advocated *inter alia* by the UN General Assembly Resolution 70/208 of 22 December 2015.[35]

In this respect, it should be underlined that in order to exploit the full potential of the paradigm shift that is advocated here, with the aim to try and achieve an effective protection of the health and integrity of the ecosystems upon which all forms of life are based, a parallel name shift also seems necessary. This would help to highlight the necessity of a marked departure from the double failure of environmental regulation and deregulation experienced so far. In this sense, since the focus of the new form of regulation will be on the preservation of the ecosystems and on the recognition of the need to respect and protect all forms of life that are present on Planet Earth, in all their diversity, I think that the term "ecological law", instead of environmental law, should be preferably used from now on to identify the new regulatory regime. Such a name shift does not represent just a superficial modification, since it implies a marked change of perspective in the object of protection. In fact, in the traditional environmental law approach the focus is on the term "environment", which has been aptly defined as such in a famous quote attributed to Einstein: "*the environment is everything that isn't me*".[36] In more precise terms, it may be said that the environment is normally identified in what surrounds humans and other living beings, but is somehow "other" from them. In this sense, the environment has also been defined as "*the complete range of external conditions, physical and biological, in which an organism live*".[37]

Quite on the contrary, in my opinion, in the new ecological law vision, the objective of protection ought to be the protection of the health and integrity of the ecosystems which enable all forms of life on the Planet. Therefore, the focus of protection should shift from the environment to ecological systems. As a consequence, it seems to me that the term "ecological law" would be much more appropriate than the traditional one "environmental law". Moreover, in such a context, the name shift should signal a corresponding radical change of

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34 See Law of the Rights of Mother Earth (*Ley (Corta) de Derechos de la Madre Tierra*), Estado Plurinacional de Bolivia, Ley 71/2010, December 2010.

35 See UN General Assembly, *Harmony with Nature*, Resolution 70/208 of 22 December 2015, A/RES/70/208.

36 A. Einstein, quoted at: http://www.brainyquote.com/quotes/quotes/a/alberteins165189.html

37 See Oxford Dictionary of Ecology, Oxford Univ. Press, 3rd ed., 2005, p. 154, cited in P. M. Dupuy and J. E. Vinuales, International Environmental Law, Cambridge Univ. Press, 2015, p. 24.

perspective from the logic of dominance of humans over nature to the duty of humanity to respect and protect nature and all living forms that are present on Planet Earth, for a mutual benefit and an enduring common flourishing.

6. CONCLUSION

The present paper has identified and critically analysed the double failure of environmental law, that has characterised the two main phases along which environmental law has evolved in the last few decades. More specifically, the first phase, which corresponds to the environmental regulatory trend, has been characterised by the attempt to protect the environment by addressing and managing the negative externalities caused on the environment by the unrestrained growth promoted by the currently dominant economic model. The shortcomings of the first phase have paved the way for the second phase, which corresponds to the environmental deregulatory trend, that has promoted a shift towards the progressive revision of the existing legislation, with a view to simplify and streamline it.

Unfortunately, both approaches have led to a substantial failure. In this sense, it has been noted above that such a phenomenon is closely related to the lack of effectiveness of environmental law and two main causes have been identified for that. The first cause refers to the concept of effectiveness itself. In order to determine the effectiveness of environmental law, a conceptual framework based on three reference meanings of the term effectiveness has been proposed and adopted. These three meanings correspond to the legal effectiveness, the behavioural effectiveness and the problem-solving effectiveness. By applying such a conceptual framework, it has been found out that the inability to focus on the problem-solving effectiveness is the main reason which has led to the observed double failure of environmental regulation and deregulation.

The second cause relates to the fact that both the environmental regulation and environmental deregulation trends have been based on the wrong reference object, namely the protection of the environment from the negative externalities caused by economic activities. As a consequence, the implementation of environmental law has contributed through the years to support, validate and reinforce the implementation of the neo-classical economic model, based on economic growth as a priority objective, without questioning its continued validity.

This has been done in spite of the growing evidence of the progressive deterioration of the general environmental situation of Planet Earth, caused by the excessive exploitation of natural resources and the emergence of various man-made forms and types of pollution. As a consequence, environmental law has proven unable to effectively tackle the environmental problems it purported to address and solve.

On the basis of the findings of the analysis, it has been argued that, in order to revise the regulatory regime for the protection of the environment and the ecosystems, it is absolutely necessary to profoundly rethink the approach towards environmental protection, on the basis of a very strong paradigm shift, based on the concept of ecological sustainability as a foundational principle. This should enable a radical change in the objective of protection, which should consist in the continued preservation in a healthy state of the ecosystems which support life on the Planet. By so doing it should be possible to promote the establishment of a new regulatory regime that should emerge from the ashes of the environmental regulation and environmental deregulation experienced so far.

Moreover, in order to exploit the full potential of the advocated paradigm shift, a parallel name shift has been proposed, which should match the shift in the focus of protection from the environment to the ecological systems. In such a context, it has been argued that the term "ecological law" would be much more appropriate than the traditional one "environmental law", so as to signal the radical change of perspective from the logic of dominance of humans over nature to the duty of humanity to respect and protect nature and all living forms that are present on Planet Earth, for a mutual benefit and an enduring common flourishing.