
THE APPLICATION OF THE PRECAUTIONARY PRINCIPLE IN INTERNATIONAL LAW: AN ANALYSIS OF THE CONTRIBUTION OF THE INTERNATIONAL TRIBUNAL FOR THE LAW OF THE SEA

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ABSTRACT

The precautionary principle, invoking the notions of risk, scientific uncertainty and irreversible damage, takes the solution of the environmental issues of the global risk society to the legal domain. Its application in international law has evolved significantly, especially with respect to the protection of the marine environment. This principle, which was much ignored in its practical application, is gradually being used in international environmental protection. The purpose of this paper is to analyze how the jurisprudence of the ITLOS has contributed to the development and application of the precautionary principle for the protection of the marine environment and how the International Tribunal for the Law of the Sea contributed to the development of this principle in international law. Thus, although we are still not able to safely say that the precautionary approach is included in international law as an unchallenged principle, it has been given great steps over the last few years in this direction. Particularly with the contributions of the international jurisprudence of the ITLOS, the

precautionary approach is evolving and becoming an autonomous principle, with less uncertainty and subjectivity that caused so much apprehension for the States and doubt in the doctrine.

Keywords: Precautionary Principle; International Environmental Law; Protection of the Marine Environment.

A APLICAÇÃO DO PRINCÍPIO DA PRECAUÇÃO NO DIREITO INTERNACIONAL: UMA ANÁLISE DA CONTRIBUIÇÃO DO TRIBUNAL INTERNACIONAL PARA O DIREITO DO MAR

RESUMO

O princípio da precaução, ao invocar as noções de risco, incerteza científica e danos irreversíveis, chama à esfera jurídica a solução de questões ambientais da sociedade de risco global. Assim, a sua aplicação no direito internacional vem evoluindo de forma significativa, sobretudo no que diz respeito à proteção do ambiente marinho. Ganhando novos contornos, o princípio que ficou por muito tempo renegado de aplicabilidade prática, vem aos poucos sendo cada vez mais invocado para a proteção ambiental internacional. O objetivo deste artigo é analisar como o princípio da precaução atua na proteção internacional do ambiente, em especial dos mares e oceanos e qual a contribuição do Tribunal Internacional para o Direito do Mar no desenvolvimento deste princípio no direito internacional. Assim, se ainda não se pode afirmar de forma segura que a precaução está inserida no direito internacional como um princípio incontestado, nos últimos anos tem caminhado a passos largos para isto. Sobretudo com as contribuições da jurisprudência internacional, em especial do TIDM, a precaução tem se desenvolvido e tomado forma como um princípio autônomo, diminuindo suas incertezas e subjetividades que tanto temor causou nos Estados e dúvidas na doutrina.

Palavras-chave: *Princípio da Precaução; Direito Ambiental Internacional; Proteção do Ambiente Marinho.*

INTRODUCTION - THE RISK SOCIETY

It was during the 1960s that discussions regarding the protection of the marine environment began to spread in the international community; these discussions were particularly influenced by disasters and accidents with irreversible consequences (GALIZZI; HERKLOTZ, 2010, p. 87; LOUKA, 2006, p. 27). It is at that time in history that an epistemological rupture started to occur in the use of resources, and scientific uncertainty began to characterize environmental issues (WEISS, 1992, p. 15). Technological progress, in addition to economic and social progress, also led to a globalization of the risks (GOMES, 2000, p. 16). That means that we lost the exact notion of the effects caused by the exploration of natural resources. It became clear that environmental damage could project their effects in time without certainty and control of the level of danger. This is evident in the case of oil tankers that sank and kept spilling oil in the environment for decades.¹ Therefore, the future risk of damage is currently an element that characterizes all the global environmental concerns (NOLLKAEMPER, 1996, p. 91; SCHIOCCHET; LIEDKE, 2012, p. 109-131).

In this sense, the concept of a “risk society”², which was coined by German sociologist Ulrich Beck, is crucially important. The development of his thesis allowed the environmental and technological risks to be ranked as the main concern of the world with the start of the so-called second modernity (HOGEMANN, 2015, p. 128-129). To Beck, the replacement of the first modernity by the reflexive modernization (second modernity) meant a paradigm shift from a “class society” to a “risk society” (BECK, 1992, p. 14-23). Therefore, the risk issue was placed at the center of the contemporary social theory, based on the criticism of Marxist-influenced sociological theories, which up to that moment tried to explain the modern community based on an industrial class society.³ This perspective maintains that what is discussed, in this new context, is the manner in which the damage that results from the production of goods can

¹ The vessels *Arizona* and *Jacob Luckenbach* continue to spill oil in the marine environment even after more than 50 years since the accidents took place. About the matter, see CASTILLO, 2005, p. 226.

² The concept was developed in his book *Risikogesellschaft. Auf dem Weg in eine andere Moderne* of 1986. The English version: BECK, 1992.

³ As written by BORGES, 2016, p. 2: “En ce sens, ‘la société du risque ne peut pas être considérée comme une option qui pourrait être choisie ou rejetée, dans le cadre du débat politique’, car les risques qui accompagnent les nouvelles technologies sont des conséquences directes et automatiques de la modernisation, dans ‘un processus autonome qui est sourd et muet quant à ses dangers’.

be distributed (LEITE, 2012, p. 193).

In sum, the concept of a risk society is crucial to the analysis of the environmental problems. One can list the characteristics of the environmental risks of the second modernity in the following manner: a) they are essentially global and, as a result, they must be managed by the entire international community;⁴ b) they are of a very serious nature and are irreversible, as a general rule. Therefore, the compensatory and corrective measures for the damages are mostly ineffective;⁵ c) they are the result of political decisions (either for lack of new technologies, by developed policies that are now outdated) and so they must be regulated by human decisions. That is, they are human creations that must be controlled by humanity; d) they reach everybody (normally more than one country is affected, and when that is not the case, the consequences are generally not restricted to a certain State or location), regardless of what caused them (CASTILLO, 2005, p. 215).

As the idea of risk is crucial to the analysis of environmental problems, the sciences and the law must have a position to avoid damage, instead of merely trying to repair it. Thus, based on the acknowledgement that society has come up with unacceptable risks without being able to take the appropriate measures to control the situation, the law is called upon to provide answers (see PRITTWITZ, 2012, p. 415-428). In a proactive manner, it is necessary to shift the focus from mitigation and reparation to a preventive attitude. The law, in addition to regulating the current situations and activities, must also try to establish rules for future situations. As a direct result of this risk and the rise of uncertainty, environmental international law needs to anticipate risks to prevent the occurrence of irreparable damage to the environment (HARDING; FISHER, 1999, p. 10).

⁴ About the matter, according to GOMES, 2011, p. 141, the risk went from exceptional (circumscribed to a reduced number of sectors...) to special (relating to especially dangerous activities and starting the responsibility for the risk) and finally, in our times, the general rule, especially in public health and the environment (when translated into a generalized threat).

⁵ We may cite here as an example, among so many others, the ballast water case: ZANELLA, 2010, p. 22: "Contrary to other forms of marine pollution, like oil spills, in which the mitigation measures can be taken and the environment can eventually recover, the introduction of marine species is, in most cases, irreversible and not perceptible in the short term. Thus, when observing that an exotic species has been introduced, it is almost always too late to take measures?". (translated freely. All texts in Portuguese have been translated freely by the author).

1 THE AUTONOMY OF THE PRECAUTIONARY PRINCIPLE AS AN INDEPENDENT PRINCIPLE OF PREVENTION

The arising of new technologies has reached a stage in which it can no longer safely organize the development, so that uncertainty with respect to technological innovations gives way to unpredictable risks.⁶ These uncertainties, according to Ulrich Beck, can lead to two types of risks: a) the concrete or demonstrated risk, in which there are estimated risks for a certain activity, so that there is a possibility of taking preventive measures to act when a disaster is imminent. That is, notwithstanding the fact that it is not certain that it will happen, we know the likelihood or the size of what may happen; b) the abstract or potential risk, in which there is no telling what the possible damage might do. This abstract risk is that which is invisible and unpredictable to human knowledge, although it is likely that the risk exists via similarity or evidence, however incomprehensible (BECK, 1992, p. 34). In other words, it is a “risk of a risk”, and may eventually never come to fruition. It is by differentiating between these two types of risks that we have the autonomy of prevention as an independent precautionary principle.

In both types of principles, we have the element of risk, but in a different setting. Despite the close connection between the prevention and the precautionary principle, the first is about the adoption of measures that are necessary to take care of foreseeable events, or, in this case, probability; whereas the second is devoted to managing the risks that are not directly predictable.⁷ Therefore, prevention has to do with averting the risk for potential damage, trying to prevent a knowingly dangerous activity from producing the undesirable effects. The precautionary principle, on the other hand, acts on averting the risk of a potential danger, which means that a certain behavior or activity is dangerous in abstract terms.⁸

As Professor Carla Amado Gomes summarized it, “the prevention

6 In this aspect, HERMITTE, 2005, p. 15: “The risk society introduced, between the two poles of predictability and unpredictability, characteristics of the simple causality of modern times – scientific uncertainty and perplexity”.

7 As written by RANDEGGER, 2007, p. 163, differentiating the principles: “The principle of prevention is applied to situations with a known cause-effect relationship and therefore a clearly defined risk. (...) The precautionary approach, on the other hand, addresses situations of scientific uncertainty”.

8 On the matter, PEREIRA DA SILVA, 2009, p. 12: says “The purpose of the prevention principle is to avoid damage to the environment, which implies an ability to anticipate situations that are potentially dangerous, natural or human in origin, capable of putting the environmental components in risk, so as to allow the adoption of more suitable means to ward off its verification or, at least, to reduce its consequences”.

principle can be translated as: in the imminence of a human action that will seriously and irreversibly damage environmental assets, this intervention must be made” (GOMES, 2000, p. 22). The precautionary principle, in turn, according to Professor Canotilho, “means that the environment must have on its side the benefit of the doubt when there is uncertainty, for lack of clear scientific evidence, about the causal nexus between an activity and a certain environmental pollution or degradation phenomenon” (CANOTILHO, 1998, p. 48). Or also, in the words of Professor Vasco Pereira da Silva: “in a society in which you have more and more risk factors for Nature [...], the shortage and continuity of natural resources make a compelling case for the legal application of the common sense rule of ‘better safe than sorry’” (PEREIRA DA SILVA, 2009, p. 12).

In international law, many instruments establish prevention as a guiding principle in the protection of the environment. The examples are: the Convention on the High Seas, signed in Geneva in 1958, which sets forth the obligation to take preventive measures in order to avoid maritime contamination by radioactive residue;⁹ and the 1982 United Nations Convention on the Law of the Sea, which establishes the duty to prevent pollution in areas that are beyond the sovereignty of the States caused by activities performed under their jurisdiction.¹⁰

The precautionary principle appeared for the first time in the international scene in 1987 during the Second International North Sea Conference on marine pollution.¹¹ For this reason, it can be said that “the precautionary principle is an idea that came from the law of the seas” (MOSEDALE, 1997, p. 224). Since then, other international texts include precaution as a behavioral¹² duty of the State.¹³ Citations include: the 1990 Bergen Ministerial Declaration on Sustainable Development; principle 15 of the Rio Declaration; Article 3 of the United Nations Framework Convention on Climate Change; and paragraph 22.5 of Agenda 21 (see GILLESPIE, 2007, p. 67-70).

Even with the existence of a conceptual distinction – often

⁹ Convention on the High Seas. In.: Geneva Convention on the Law of the Sea of 1958. Art. 25, paragraph 1.

¹⁰ LOSC. Art. 194, paragraph 2.

¹¹ The origin of the concept dates back to the German legislation (“vorsorgeprinzip”) of 1976, which reiterates the terms of the Wingspread Declaration of 1970. In this sense, SCHRIJVER, 2008, p. 184.

¹² See BORGES, 20016. In his book he conducted an interesting investigation about the prevention and precaution principles as an obligation of behavior and an obligation of result.

¹³ According to TROUWBORST, 2009, p. 27: “Currently, the precautionary principle can be found in or under more than 60 multilateral environmental treaties, as well as a myriad of political declarations, resolutions and action programmes, covering a great variety of issue areas”.

ambiguous and not very clear – created by the doctrine and cited in several international documents as autonomous forms, several authors do not distinguish between the two principles.¹⁴ There are also those who regard the precautionary principle as a simple variation of the duty to prevent, that is, a natural continuation. As stated by Faure and Niessen: “The precautionary principle is nothing more than an extension of the prevention principle (...)” (FAURE; NIESSEN, 2006, p. 46). The close connection between the two cannot be denied, because both work with the idea of anticipating risks, but the precautionary principle goes beyond the classical logic of the preventive approach to a new culture of risk, as it is applied in a context of uncertainty. In the classical prevention logic, only a proven risk justifies the adoption of early measures. That is, only after recognizing the possibility of damage can the international law regulate a certain activity to prevent its occurrence; whereas, in the precautionary logic, there is no direct prediction for possible damage (SAGE-FULLER, 2013, p. 68).

Despite the similarities, at least two fundamental differences make these two principles independent of each other. First, the preventive approach is applied to risks that are fully understood, or at least they are likely, whereas the precautionary approach works with possible risks, which are not known for sure, that is, the effects of such an activity on the environment are not entirely known (KISS, 1996, p. 27). Second, the *modus operandi* of the precautionary principle is completely different from the one in prevention, because it does not have the purpose to be applied *ad infinitum* (MARTIN, 2005, p. 2224). In these terms, science has a completely different role in precaution than it has in prevention. From the moment that technological progress and uncertainties are reduced, precaution loses its role, as the risks and damage of each activity become known. Thus, the level of scientific knowledge will determine if it is a case of applying prevention or precaution – or neither (TROUWBORST, 2009, p. 119).

2 THE *MODUS OPERANDI* OF THE PRECAUTIONARY PRINCIPLE IN INTERNATIONAL ENVIRONMENTAL LAW

As was said before, the *modus operandi* of the precautionary principle is completely different from that of prevention, and it carries its very own unique characteristics. At this point, two very peculiar aspects

¹⁴ See BODANSKY, 2004, Chapter 16, at 381-391.

of precaution will be studied in the way they operate in international environmental law. First, the so-called *in dubio pro natura* will be analyzed, in which the benefit of the doubt always falls on the environment. Then, the matter of shifting the burden of proof will be investigated, as it is a crucial precept for the autonomy of precaution as a principle that belongs to international environmental law.

2.1 The Benefit of the Doubt and the Risk of Error in Favor of the Environment – *in dubio pro natura*

The precautionary principle has very peculiar characteristics, and it has its own way of operating in international environmental law. First, once again, we need to bear in mind that the damage to the environment – especially for the seas and the oceans – is, as a general rule, hard or impossible to correct. Therefore, proactive and safe actions are required. Having said that, the adoption of this principle for every possibility in the urge to prevent each and every risk could result in ineffectiveness and could stop all human activities.¹⁵

The strict application of the precautionary approach – as small as the level of damage caused by an act may be – could cause its own collapse, because using it for every risk would be materially impossible. In these terms, its adoption would lead to a complete distortion of its purpose, because only the activities that provided absolute certainty of harmlessness would be freely executed (TINKER, 1996, p. 67). This possibility would be completely unrealistic, and the concept of a risk society would be totally inverted. In sum, the precautionary approach used in absolute terms would result in a hypertrophy of “not doing”, which would cause a complete social paralysis (AREOSA, 2008, p. 4).

In view of this situation, the precautionary principle may initially operate in international environmental law in two distinct ways: a) only being admitted when there is scientific certainty that a certain activity puts the environment in risk and has a high probability of causing damage to the environment; b) being accepted in the absence of scientific certainty about the possibility of damage, and uncertainty as to the results of such an activity would be enough for its application (GOMES, 2000, p. 35).

¹⁵ About the matter, Professor Vasco Pereira da Silva says that the idea of precaution as an *in dubio pro natura* principle is inadequate because it carries an excessively inhibiting load, as it is impossible to have “zero risk” in the environmental area. PEREIRA DA SILVA, 2001, p.19; PEREIRA DA SILVA, 2003, p. 69-70.

If the first option is used, the precautionary approach fades away as an autonomous principle, and it becomes the same – or it becomes a simple branch – as prevention, as they would have the same practical application in international law. The second option, in turn, could result in its lack of application and operation, because – if it is not regulated in very effective terms – it could be applied to each and every human act, causing the so-called “social hypertrophy” (ZANDER, 2010, p. 14).

However, it is not about being better safe than sorry at any cost. It is about *in dubio pro natura*.¹⁶ That is, the environment is given the benefit of the doubt when there is uncertainty with respect to the effects of a certain activity on it. In these terms, when it is unclear whether or not a certain activity can cause serious damage to the environment, the risk of error must be favored. That is, in case of doubt, it is better to run the risk in terms of protecting the environment, because without running the risk, you are possibly exposing the environment to irreparable damage.

Taking the approach of early intervention is required to prevent possible damage to the environment in the cases in which the best information available is not able to confirm the level of damage of the activity.¹⁷ Having said that, the question then becomes: how do we know the reasonable motives of concern in order to apply the precautionary principle, as there is no zero risk in international environmental law? In this sense, there is no calculated answer for this question, considering the many variables that must be taken into account to decide whether or not to apply the precautionary principle in a certain situation. It is only on a case-by-case basis that we are able to define if the activity is reasonable.

However, a few parameters serve as guiding principles to apply such an approach in environmental international law: a) a minimum probability of causing environmental damage; b) the severity of the possible damage (TROUWBORST, 2009, p. 110). In these terms, for its use, we need to take into consideration the ratio between these two requirements and the real effectiveness of the precautionary measures to be adopted. The ratio and the effectiveness must ponder – always analyzing the probability and the severity – if the actions correspond to the magnitude of the risks involved, in order to avoid the adoption of excessively strict measures. This way, the greater the added risk, the more rigorous the preventive

¹⁶ Expression used by several authors, particularly by TROUWBORST, 2006, p. 190; GOMES, 2000, p. 37, prefers the expression “*in dubio pro ambiente*”.

¹⁷ TROUWBORST, 2009, p. 110 says: “‘*In dubio pro natura*’ and ‘erring on the side of environmental protection’ accurately reflect the gist of the precautionary principle in general international law”.

measure, and vice-versa.¹⁸

Once again, these parameters must always analyze the concrete case, under penalty of total ineffectiveness of the principle in the international society. That is, the precautionary approach always has to consider the costs and the benefits of each precautionary measure to be adopted, because the dangers of a misuse of the principle may result in unnecessarily alarmist actions (DOYLE; CARNEY, 1999, p. 47.¹⁹ The Rio Declaration itself, in principle 15, emphasizes that the precautionary approach is only to be used “where there are threats of serious or irreversible damage” and that the precautionary measures must be “cost-effective”²⁰ to be applied in international law.

2.2 Shifting the Burden of Proof

Another issue is very controversial in international environmental law, namely the burden of proof of the possible damage. To be more precise, the precautionary approach brings a reversal of this burden to prove the damage, that is, with the use of this principle, it is up to the agent of the possible damage (or the public authority that authorized the activity – such as the State responsible for it) to prove that it will not damage the environment (GARCIA, 1994, p. 106; GULLETT, 1997, p. 59-60). Such a statement entails, once again, enormous risk of social paralysis and inefficacy of the principle in international law, “considering that the proof of the absolute harmlessness of the eventually polluting activity would be a real *diabolica probatio*” (GOMES, 2000, p. 38). In other words, shifting the burden of proof must be applied with caution as it might be impossible to paralyze every activity before proving that it would not harm the environment.²¹

On the other hand, without this shift, the precautionary approach would be extremely limited (GONZALEZ-LAXE, 2005, p. 496). If the duty of the burden does not fall on the possible polluting agent, there is

¹⁸ About the matter, TROUWBORST, 2009, p. 110 says: “Various guidelines help establish what, in concrete instances, constitutes effective and proportional action. Such action should, among other things, be (1) timely; (2) tailored to the circumstances of the case; and (3) regularly reviewed and maintained as long as necessary to prevent the harm involved, but not longer”.

¹⁹ See Doyle and Carney *supra* note 26, at 47.

²⁰ The Rio Declaration on Environment and Development, 1992. Principle 15.

²¹ See GILLESPIE, 2007, p. 71, note n. 68, who says that there are proponents of a weak approach and those who believe that the precautionary approach must be used in a stronger fashion. According to the author, one of the first dilemmas is precisely the reversal of the burden of proof.

simply no one to prove its damaging character. That is, the precautionary approach would remain only an autonomous guiding principle of international environmental law. The scientific uncertainty of the effects of a certain activity on the environment is a *sine qua non* condition of the precautionary approach. Therefore, whoever undertakes the duty to analyze the consequences of an activity must be the one who wishes to properly scrutinize this activity so that there is greater protection and environmental safety. Otherwise, it would be up to the one suffering from the possible consequences to prove the damage of each activity and exploration that might harm its environment, which would be impractical (GOMES, 2000, p. 36).

Also, if this obligation of producing evidence and scientific certainty would fall on the ones suffering from the damage, what would happen if, on account of inertia, lack of technology or even lack of will, nothing was proved? That is, if the proof was not produced and it was not proven that the activity is harmless nor that it is harmful? Would the activity be prohibited based on the precautionary approach, because that, without the certainty of the results, it would be forbidden? This way we would go back to the biggest problem and the risk of the irrational use of this principle, because no activity would be allowed without the suffering party having to demonstrate first the possible consequences to the environment. The environment would depend on the goodwill of the subject – who often can be found not to take interest or be afraid of suffering irreversible environmental damage – to prove that a certain activity may or may not be conducted in his area.²²

There is still a great deal of divergence with respect to shifting the burden of proof, especially in the jurisprudence. In practice, the international and national courts have varied significantly in their decisions. Although the doctrine has moved toward an understanding that the shift is necessary for the effectuation of the precautionary approach and for more protection of the environment,²³ many courts, especially international courts, have

²² An example of its implementation can be found in Annex I (The Principle of Precautionary Action) of the “*Final Declaration of the First European Seas At Risk Conference*”, Copenhagen, 26-28 October 1994: “3. The burden of proof is shifted from the regulator to the person or persons responsible for the potentially harmful activity, who will now have to demonstrate that their actions are/will not cause harm to the environment”.

²³ Several authors disagree with such a shift, and even with the precautionary approach being an autonomous principle of international environmental law. For example, CAMERON; ABOUCHAR, 1991; BODANSKY, 2004, p. 390-391; SAND, 2000, p. 448, who understands that shifting the burden of proof would be the “most radical variant” of the precautionary principle.

difficulty in applying this.²⁴

We can mention the 2010 International Court of Justice (ICJ) case of the pulp mill at the Uruguay River, in which the parties were Argentina and Uruguay.²⁵ In summary, Argentina questioned the construction and production of a pulp mill on a river that borders both countries, based on a bilateral agreement. Argentina argued that, based on the precautionary principle, the mill could not operate in such a location, because it could pose a serious risk of irreparable environmental damage.²⁶ Therefore, Argentina said that the burden to prove whether or not there were serious risks of damage to the environment was on Uruguay, and until it was proven that such an undertaking did not represent a real threat to the environment, they should shut it down. However, ICJ explicitly denied the reversal of the burden of proof in this case and kept the mill in operation, even without knowing exactly the consequences of such activity (KAZHDAN, 2011, p. 528). The ICJ's judgment was based on extremely technical aspects of the bilateral agreement – which did not contemplate the reversal of the burden of proof – and not on the broad application of the precautionary principle.²⁷

The World Trade Organization (WTO) also had the chance to analyze the precautionary principle and the reversal of the burden of proof. However, the legal bodies of the WTO have consistently assigned the burden of proof to the complainant (HORN; MAVROIDIS, 2009, p. 115). This is the case of the hormones in cattle meat in which the European Union prohibited imported North American and Canadian meat treated with hormones (EC Measures, 1998). The WTO reviewed the case and understood that the burden to prove that the food was harmful to human health was on the complainant (EC Measures, 1998, p. 35-40). It also

²⁴ It is not our purpose here to provide an in-depth analysis of the way the national courts of each country apply the precautionary principle and the shift of the burden of proof; however, as an example, we can mention the text by Jacqueline Peel on the application of this principle in the Australian jurisprudence: PEEL, 2009, p. 21: “If the two conditions precedent or thresholds of the precautionary principle were met, the legal result, according to the court, was to shift the burden of proof to the development proponent to demonstrate that the ‘threat does not in fact exist or is negligible’”.

²⁵ ICJ Reports. Pulp Mills on the River Uruguay (Argentina v. Uruguay). 4 May 2006. Available at <http://www.icj-cij.org/docket/files/135/15877.pdf>. Accessed 17 January 2017. About the case, see KAZHDAN, 2011, p. 527-552.

²⁶ Pulp Mills on the River Uruguay – Argentina v. Uruguay – ICJ – Oral Proceedings, CR 2009/12, p. 66, para. 28: “Even if the risks of serious harm may in some circumstance appear to be merely potential, the precautionary principle requires “[the adoption of] cost-effective measures to prevent environmental degradation” (“l’adoption de mesures effectives visant à prévenir la dégradation de l’environnement”). Available at <http://www.icj-cij.org/docket/files/135/15471.pdf>. Accessed 17 January 2016.

²⁷ ICJ Reports. Pulp Mills on the River Uruguay (Argentina v. Uruguay). at 61, para. 164.

considered that the precautionary principle needed to be better regulated internationally to be applied in international trade, but said that this principle could be used in exclusively environmental issues (EC Measures, 1998, p. 45-46, par. 123).²⁸

We also have to mention the case law of the International Tribunal for the Law of the Sea (ITLOS) on the matter. The reality is that the Tribunal has not explicitly made its view of the shift of the burden of proof in the application of the precautionary principle public. On 1 February 2011, the ITLOS, in an advisory opinion on the “Responsibilities and obligations of states sponsoring persons and entities with respect to activities in the Area” (ITLOS, 2011), strongly stressed the application of the precautionary approach; however, it did not mention the possibility of shifting the burden of proof. We analyze this opinion further, because of its huge importance to the use of the precautionary principle in the law of the sea.²⁹

3 THE PRECAUTIONARY APPROACH AS A GUIDING PRINCIPLE FOR THE ENVIRONMENTAL PROTECTION OF THE SEA – FROM THEORY TO PRACTICE

So far, this paper has analyzed the precautionary principle in general theoretical terms and investigated its new meanings for the international environmental law. Now, let us study how these theoretical aspects are applied in international law for the environmental protection, especially the marine environment. The purpose now is to study how the international practice has used the precautionary principle to protect the marine environment from pollution and degradation.

In this sense, once again we can say that the precautionary approach is an idea that came from the law of the sea and quickly spread to other international conventions. However, even though it is posited in several texts, the exact definition and the way it was used in international

²⁸ This same position was repeated by the WTO panel on the Biotech case in 2006. EC Measures Affecting the Approval and Marketing of Biotech Products, WTO 29 September 2006, WT/DS291/R, WT/DS292/R, WT/DS291/R. In this case, it was said that the precautionary principle is established in many international treaties, but almost exclusively for the environment. In addition, the principle has been referred to and applied by the national States in domestic environmental law.

²⁹ In addition to this opinion, the ITLOS, in other cases, that the precautionary principle should be a guiding principle of marine law. We may cite here the Southern Bluefin Tuna case and the MOX Plant Case. Even if the merits of the cases were not analyzed, the ITLOS could reaffirm the importance of the precautionary approach for the marine environment. Because in none of these cases the ITLOS analyzed the shift of the burden of proof, these cases are not addressed here. We analyze specifically the jurisprudence of the ITLOS on the precautionary approach and both cases are studied in depth.

law went through a phase of uncertainty and great controversy (MARR, 2003, p. 21). Some authors include the precautionary approach in the list of general principles of law, whereas others prefer to include it in customary rules (MOSEDALE, 1997, p. 221) and others even deny its status as a legal principle due to its great inaccuracy (CHARMIAN, 1998, p. 509; FITZGERALD; ELLIS, 2004, p. 779 – 800). Particularly in the 1990s and at the beginning of the 21st century, when the principle appeared in international conventions, without a clear definition of its application, a great number of legal scholars were concerned about accepting the precautionary approach as an imperative principle of law.³⁰

Besides, the greatest contestants of the precautionary approach have always been the States themselves, which, afraid of its limitless use, preferred to see it as a mere guideline (MACDONALD, 1995, p. 269) and not as a binding principle. The fear of the States was justified in view of the initial uncertainties about the mode of utilization, apparently very subjective, with the potential of preventing each and every activity for merely not having concrete data about the environmental consequences. That is, in the urge to prevent each and every risk that might stop every human activity, a social hypertrophy of “not doing” would result (BODANSKY, 2004, p. 384-385).

However, the uncertainties gradually dissipated, and the precautionary approach started to be developed, particularly in the case law, as a guiding principle of international environmental law, with aspects that are more precise and objective. The law of the sea has had an important role in this evolution. It was in this legal field that the precautionary approach came to existence and evolved with greater accuracy (SAGE-FULLER, 2013, p. 62; FOSTER, 2011, p. 138; CHAZOURNES, 2007, p. 25). Thus, we now analyze how the precautionary approach is applied to protect the seas.

30 About the matter, GOMES, 2000, p. 211 says: “To us, the greatest risk of assumption of precaution as a principle – although with the entire vagueness of a principle, by definition, has – is of the tendency to overvalue certain values – *maxim*, in which here it directly matters, the natural resources – to the detriment of others, abstracting any ponderation and in the absence of minimally conclusive scientific proof”.

3.1 The Jurisprudence of the ITLOS in the application of the Precautionary Approach for the protection of the marine environment

It is precisely in the ITLOS that, over the last few years, the precautionary approach has developed the most and was applied as a guiding principle of marine protection and in international environmental law. For this reason, the jurisprudential analysis of the ITLOS is imperative on this matter. We study three cases analyzed by the ITLOS that have this important role: the *Southern Bluefin Tuna Cases*, the *MOX Plant Case*, and the *Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area*.

3.1.1 The Southern Bluefin Tuna Case

The ITLOS was called upon in 1999 by Australia and New Zealand against Japan³¹ to settle a controversy about the fishing of the southern bluefin tuna (ANDO, 2007, p. 867- 876; ROMANO, 2001, p. 312- 348).^{32 33}

First, it is necessary to keep in mind that the southern bluefin tuna (*Thunnus maccoyii*) is one of the highly migratory species regulated by Article 64 of the LOSC. Therefore, the LOSC already established that the States whose nationals fish for this species must cooperate to ensure its conservation and promote its optimal utilization in view of the over-exploitation risks caused by nationals of a State to the harm of the others.³⁴ For this reason, in 1982, Japan, Australia and New Zealand initiated a program to restore the stocks of tuna until the year 2020. Four years later, in 1986, these States were able to reduce fishing by 40% (ROSENNE, 2000, p 464). In view of this great progress, the three States decided to sign, on 10 May 1993, an international agreement to keep protecting and preserving the species and, on 20 May 1994, the Convention for the Conservation of

31 Despite being about the same subject, Australia and New Zealand called upon the ITLOS separately. The ITLOS joined the proceedings to analyze both complaints together (*Southern Bluefin Tuna Cases (New Zealand v. Japan; Australia v. Japan), Provisional Measures*). However, regarding the numbering of the cases, the ITLOS refers to the New Zealand case as No. 3 and the Australian case as No. 4.

32 Also called “Southern Bluefin Tuna”, “Blue Tuna”; or “Southern Tuna”. The scientific name is *Thunnus maccoyii*.

33 Southern Bluefin Tuna Cases (New Zealand v. Japan; Australia v. Japan), Provisional Measures. All the documents are available at <http://www.itlos.org/index.php?id=62&L=1AND1%3D1>. Accessed 19 January 2017.

34 LOSC. Art. 64.

the Southern Bluefin Tuna was in force.³⁵

However, Japan stated that from 1999 to 2001 it was going to conduct a unilateral experimental fishing program on the species, increasing exploitation beyond what was established by the Commission for the Conservation of Southern Bluefin Tuna. The decisions of the Commission are made by a unanimous vote of the three members.³⁶ In May 1994, when the first meeting of the Commission was held, the Total Allowable Catch (TAC) was set at 11,750 tons, divided in the following manner: 6,065 tons for Japan; 5,265 tons for Australia; and 420 tons for New Zealand.³⁷ However, since 1998, the Commission has not been able to reach an agreement on a new TAC (BIALEK, 2000, p. 153). Japan, which was not satisfied with the quota, then decided to increase fishing for the aforementioned tuna unilaterally through this so-called experimental fishing program (MARR, 2000, p. 816).

In view of Japan's attitude, which is contrary to the Convention and to the interests of Australia and New Zealand, both latter States requested the constitution of an arbitral tribunal in accordance with Annex VII of the LOSC.³⁸ Furthermore, because they needed to put an immediate stop to the Japanese catch that went beyond the accorded TAC, these States also asked the ITLOS for a provisional measure, pursuant to Article 290, paragraph 5 of the LOSC; the arbitral tribunal was not required to analyze the merits of the complaint.³⁹

The basis for the request for a provisional measure was the need for a precautionary attitude, because it was unknown whether the increase in the annual catch would cause irreversible damage to the number of southern bluefin tuna in the oceans.⁴⁰ The main argument was that the

35 Convention for the Conservation of Southern Bluefin Tuna. Available at http://www.ccsbt.org/user-files/file/docs_english/basic_documents/convention.pdf. Accessed 19 January 2017.

36 Rules of Procedure of the Commission for the Conservation of Southern Bluefin Tuna. Rule No. 6.

37 Data available at <http://web.archive.org/web/20020612124922/www.ccsbt.org/docs/management.html>. The current TAC data can be found at http://www.ccsbt.org/site/total_allowable_catch.php. Both were accessed 19 January 2017. Currently, South Korea, Taiwan and Indonesia are also members of the Commission.

38 The Arbitral Tribunal is the only mandatory means to solve controversies at the LOSC, that is, only this tribunal may be constituted without the consent of the parties. In this interim period, it is worth mentioning that the three States were already in 1999 signing members of the LOSC: Japan ratified the LOSC on 20 June 1996; Australia did so on 5 October 1994; and New Zealand on 19 July 1996.

39 The requests for provisional measures were submitted on 30 July 1999: Request for the Prescription of Provisional Measures Submitted by Australia; Request for the Prescription of Provisional Measures Submitted by New Zealand.

40 Request for the Prescription of Provisional Measures Submitted by New Zealand. p. 8.

scientific uncertainties about the exploitation of the species beyond the quota established in 1994 would not allow anyone to say that the tuna would be able to survive so as to at least keep its population stock (MARR, 2000, p. 816).

In a decision rendered on 27 August 1999, the ITLOS accepted, with a majority of votes, the request for a provisional measure. The ITLOS ordered, among other measures, the immediate suspension of Japan's experimental fishing program until the arbitral tribunal analyzed the merits of the case.⁴¹ The ITLOS stated that "the parties should in the circumstances act with prudence and caution to ensure that effective conservation measures are taken to prevent serious harm to the stock of southern bluefin tuna".⁴² That is, the ITLOS said that, in view of the lack of scientific evidence, the exploitation of tuna above the previously established quota could cause serious damage to the stock of the species. Therefore, it ordered the suspension of the over-exploitation based on "prudence and caution" (CHO, 2009, p. 64; STEPHENS, 2010, p. 225).

Although the ITLOS did not expressly mention the precautionary principle at any time, and much less worked on the concept, content and manner of application, this decision was very important in the development of the precautionary approach in international environmental law. First, in the matter of marine living resources, for the first time, an international court ordered the suspension of an activity based on scientific uncertainty.⁴³ Second, in doing so, it offered an incentive to fishing nations everywhere to cooperate in managing and preserving fishing resources by signing multilateral agreements, as stated in the LOSC itself.

This way, in sum, the ITLOS decision in the case of the southern bluefin tuna was an important milestone for the evolution of the concept and the practical application of the precautionary principle. Even though the ITLOS did not analyze and develop the theme with more precision and in depth, this decision had the merit of applying the precautionary principle in an actual case of conservation of marine natural resources.

41 Southern Bluefin Tuna Cases (New Zealand v. Japan; Australia v. Japan), Provisional Measures. Order. 27 August 1999 at 16-17.

42 *Ibid.* at 14, para. 77.

43 This provisional measure was later struck down by the Arbitral Tribunal in conformity with Annex VII of LOSC to decide on the matter of the controversy, which upheld the Japanese position that there was no jurisdiction to judge the case (based on LOSC Article 282), because there was a regional treaty about the matter.

3.1.2 The MOX Plant Case

The MOX Plant case⁴⁴ was a conflict between Ireland and the United Kingdom about the construction and operation of a nuclear fuel processing plant in Sellafield, located in the northwest of England, at the border of the Irish Sea.⁴⁵ The argument was that the operation of this plant had not been duly analyzed and that there were uncertainties with respect to the possibility of marine pollution by nuclear waste. Ireland requested in June 2001 the constitution of an *Ad Hoc* Arbitral Tribunal under the 1992 OSPAR Convention (Convention for the Protection of the Marine Environment of the North-East Atlantic) (Regarding the constitution of the ad hoc tribunal based on the OSPAR Convention, see VOLBEDA, 2006, p. 214). In October 2001, it requested the constitution of an Arbitral Tribunal according to LOSC Annex VII. However, before analyzing the merits of the case, Ireland applied to the ITLOS for provisional measures to order the immediate suspension of the activities conducted by the United Kingdom in the nuclear plant, because it understood the measure to be urgent and of difficult further repair. In the end, the European Court of Justice was also called upon because of EURATOM (About this legal “congestion”, see HICKS, 1999, p. 1643, which uses the expression “treaty congestion” for international environmental law).

Ireland based its argument to the ITLOS for provisional measures to immediately stop the activities at the MOX Plant on the precautionary principle. According to Ireland, the harmful effects of the plant on the marine environment of the region were unknown and might cause serious and irreversible environmental damage. Also, the Irish request declared that the United Kingdom should prove that this activity would be harmless to the environment and that preventive measures, before the scientific proof, were required.⁴⁶

In a decision rendered on 3 December 2001, the ITLOS did not recognize the request of Ireland because it held that the plant did not pose serious damage to the marine environment and that Ireland was not able to prove the urgency and severity of the potential damage (CHO, 2009, p. 64).

44 Acronym for Mixed Oxide Fuel. All the documents regarding the case in the ITLOS can be found at <http://www.itlos.org/index.php?id=102&L=1AND1%3D1>. Accessed 21 January 2017. *The MOX Plant Case (Ireland v. United Kingdom), Provisional Measures*.

45 In this sense, STEPHENS, 2010, p. 232 says: “As no nuclear facilities in the United Kingdom currently use the mixed uranium and plutonium fuel to generate electricity, MOX fuel is intended for export, via the Irish Sea”.

46 Request for Provisional Measures and Statement of Case submitted by Ireland, at 45, para. 101.

For the ITLOS, Ireland did not provide evidence of irreparable damage to its rights or serious damage to the environment as a result of the operations at the MOX plant and that, as a consequence, the precautionary principle did not apply in that provisional measure.⁴⁷

Notwithstanding the refusal by the ITLOS to apply the precautionary principle, the decision was extremely important to set the standards and more objective rules to the utilization of this principle. To avoid the excessive use of the precautionary approach, which could diminish its international legitimacy as a result, the ITLOS seized the opportunity to clarify the scope and limits of its utilization. In doing so, it emphasized the need to specify the severity of the potential damage to the marine environment. Thus, to invoke the precautionary principle, the damage to be prevented cannot be general and abstract; it must be identifiable and clear. In addition, the threat must pose serious or irreversible damage to the environment, which was not proven in the MOX Plant case, especially because it was a provisional measure and not the analysis of the merits of the case (CHO, 2009, p. 64; STEPHENS, 2010, p. 237-238).

In sum, in addition to reaffirming that the precautionary principle cannot be used without restriction, this case served as a start to the establishment of more objective limits and standards for the preventive approach. In international environmental law, not every scientific uncertainty can prevent the society from conducting its activities and explorations. However, it is clear from the ITLOS's decision that the precautionary approach must be a guiding principle in the law of the sea.

3.1.3 Responsibilities and Obligations of the States in the Activities in the Area

Among the cases analyzed by the ITLOS, and maybe in all the international courts, the Advisory Opinion of 1 February 2011 regarding the “Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area” is the most significant.

⁴⁷ *The MOX Plant Case (Ireland v. United Kingdom), Provisional Measures*. Available at http://www.itlos.org/fileadmin/itlos/documents/cases/case_no_10/Order.03.12.01.E.pdf. Accessed 21 January 2017. Also: Joint Declaration of Judges Caminos, Yamamoto, Park, Akl, Marsit, Eiriksson and Jesus: “Under these circumstances of scientific uncertainty, the Tribunal might have been expected to have followed the path it took in the Southern Bluefin Tuna Cases to prescribe a measure preserving the existing situation. In its wisdom, it did not do so. It decided, in the circumstances of the case, that, in the short period before the constitution of an arbitral tribunal under Annex VII to the United Nations Convention on the Law of the Sea, the urgency of the situation did not require it to lay down, as binding legal obligations, the measures requested by Ireland”.

In this Advisory Opinion, the ITLOS made clear the terms in which the precautionary approach must be used in international environmental law, contributing very significantly to the development of this principle (LAMOTTE, 2011, p. 457).

First of all, the case in question was not a lawsuit; it was an advisory opinion.⁴⁸ The International Seabed Authority requested the ITLOS, by means of the Seabed Disputes Chamber of the ITLOS,⁴⁹ to settle the following matters: a) the responsibility of the States in terms of sponsoring activities in the area; b) the responsibility of the States for lack of compliance with the provisions established by the LOSC; in particular, regarding the activities listed in LOSC Article 153, paragraph 2, item “b”; and c) the appropriate measures that the States must take in order to fulfil their duties and responsibilities, especially with respect to Article 139 and Annex III of LOSC, and the 1994 Implementing Agreement (ITLOS. 2011, p. 5-6).

The opinion by the ITLOS explains all these questions and, with respect to the precautionary principle, it provides great advances, defining its manner of application and utilization. It is regarded as an historic decision (FREESTONE, 2011, p. 759). In answering the aforementioned questions, the advisory opinion identified several obligations directly for the sponsoring States,⁵⁰ such as: provide assistance to the Authority in the exercise of the control of the activities in the Area; apply the best environmental practices; take measures to ensure the provision of guarantees in the case of an emergency order from the Authority to protect the marine environment; provide compensation for the damage caused by pollution; conduct environmental impact assessments; and apply the precautionary principle (ITLOS. 2011, par. 122).

Regarding the precautionary approach, the ITLOS established, in paragraphs 125 to 135, the exact limits for its application regarding the exploration of polymetallic nodules on the seafloor that, in a certain way,

48 For a more in-depth study on the prior history, background and procedures of the case, see LAMOTTE, 2011, p. 455; CHURCHILL, 2011, p 501-503.

49 Under the terms of LOSC Part XI, the Seabed Disputes Chamber is in charge of solving any controversy involving the seabed, as well as issuing advisory opinions. LOSC Art. 191 and Art. 131 of the ITLOS Regulation. About the matter, FREESTONE, 2011, p. 759 says: “This is the first time that the advisory jurisdiction of the International Tribunal for the Law of the Sea has been invoked and the first time that the Seabed Disputes Chamber has been called upon”.

50 Sponsoring States are those countries whose state-owned companies and individuals or legal entities have the same nationality or are in effect controlled by the State, namely, those in LOSC Art. 139, par. 1; Art. 153, par. 4; and Art. 4, par. 4 of LOSC Annex III.

extend beyond the Area and apply to other marine activities.⁵¹ That is, at least in the procedural issues and in the limits and rules for the utilization of the precautionary principle in international environmental law, the ITLOS's opinion extends beyond the strict guidelines of the opinion.

Regarding the application of the precautionary approach, first, the ITLOS begins the advisory opinion emphasizing that the international regulations themselves (Regulations on Prospecting and Exploration for Polymetallic Nodules and Regulations on Prospecting and Exploration for Polymetallic Sulphides), which were reviewed in the case in question, in addition to other general international documents, state that the precautionary approach must be applied and taken into consideration in the exploration of the Area.⁵² The ITLOS decided that, although the general documents – like Principle 15 of the Rio Declaration – are not legally binding, both Regulations have mandatory application (ITLOS. 2011, par 127).

Second, the ITLOS used the precautionary concept from Principle 15 of the Rio Declaration to establish how and in what situations this principle can be invoked: a) it can only be applied in threats of serious or irreversible damage to the environment. That is, only in situations of a greater risk, in which the environment might suffer damage to a point that corrective measures are not able to restore the marine environment in a satisfactory manner;⁵³ b) the cost-effectiveness of the precautionary actions to be adopted must be analyzed. That is, for their employment, the measures to be used must bring more benefits than costs. There are situations in which the cost of a certain precautionary action brings more harm than the possible damage (ITLOS. 2011, par. 128).

⁵¹ There is some discussion and even harsh criticism at times with respect to the scope of application of the opinion. That is, the ITLOS understood that the advisory opinion (par. 87) was only about the obligations of the States with respect to certain activities described in the international texts that we analyzed: ISA, Regulations for Prospecting and Exploration of Polymetallic Nodules (available at <http://www.isa.org.jm/files/documents/EN/Regs/PN-en.pdf>); ISA, Regulations for Prospecting and Exploration of Polymetallic Sulphides (<http://www.isa.org.jm/files/documents/EN/Regs/PolymetallicSulphides.pdf>). Thus, the opinion included only the following activities: “drilling, dredging, coring, and excavation; disposal, dumping and discharge into the marine environment of sediment, wastes or other effluents; and construction and operation or maintenance of installations, pipelines and other devices related to such activities” (ITLOS. 2011, par. 87). However, two important activities, which are even included in the analyzed International Regulations, were not included by the ITLOS: mineral transportation and processing. This position of the ITLOS was severely criticized in the literature. About the matter, see FREESTONE, 2011, p. 759, which defends the position of the ITLOS.

⁵² At several locations, both Regulations mention the duty to act with precaution.

⁵³ The ITLOS does not provide more details about the definition of the “serious damage” capable of legitimizing the use of precaution as a principle in international environmental law; it is left to be applied on a case-by-case basis. This position is perfectly plausible, because it is not up to the ITLOS to come up with all the concepts precisely, and it would also run the risk of excessively restricting its application by doing so.

Third, the ITLOS alludes to Principle 15 of the Rio Declaration with respect to the fact that the precautionary approach must be adopted by the States, “according to their capabilities”, which introduces the possibility of different uses of the precautionary approach in light of the different capabilities of each State (ITLOS. 2011, par. 129). Having said that, the ITLOS refers to paragraphs 151 to 163 of the opinion where it covers the responsibilities of developing countries. This is a delicate situation in which the Tribunal had to establish what the responsibilities would be for these States and how they would apply the precautionary approach. That is, if the prescription were poorly framed, that could easily leave gaps in the application of the measures by the developing countries, which would be exempt from – or at least would have fewer – responsibilities in the application of the precautionary approach for the protection of the marine environment. However, it must be clear that no provision in the LOSC – or the 1994 Implementing Agreement – gives preferential treatment to developing States with respect to the responsibilities of sponsoring countries. Although the international documents have specifications – such as LOSC Article 140, paragraph 1, where it states that the activities in the Area must take “into particular consideration the interests and needs of developing States”; or Article 148, which promotes the participation of developing States in activities in the Area – no provision sets different responsibilities for developed and developing countries.

This way, one may initially believe that the requirements for the fulfilment of the obligation to apply the precautionary approach may be more demanding for the developed countries than for the developing countries. However, the reference made to the different capabilities in the Rio Declaration does not mean that the developing States are allowed to stop following the so-called “best environmental practices”, or even that they are exempt from responsibilities. On the contrary, both have the same duties and responsibilities in the application of the precautionary approach. According to the opinion, this equality is required; otherwise, this could lead to a fraud, with companies from a developed State trying to get sponsorship and support from a developing State to be submitted to less demanding regulations and controls. Such possibility would lead to a new kind of “convenience flag”, with a rush of exploration companies in search of fiscal and environmental incentives (ITLOS. 2011, par. 159).

Fourth, notwithstanding the specific obligation to use the precautionary approach as a guiding principle for the activities in the Area,

the ITLOS creates a general obligation of due diligence for the States, which is applicable even outside the scope of the case in question.⁵⁴ The due diligence obligation forces the States to take all the necessary measures to avoid damage that may result from any marine activity. This obligation applies to the situations where the scientific evidence about the scope and the potential of the harmful impact of the activity is insufficient, but the aforementioned requirements are met (FREESTONE, 2011, p. 758). Thus, to the ITLOS, “a sponsoring State would not meet its obligation of due diligence if it disregarded those risks. Such disregard would amount to a failure to comply with the precautionary approach” (ITLOS. 2011, par. 131). This implies that the advisory opinion, regarding the precautionary principle, is not limited to the specific activities in the Area; it applies to any other activity performed in the marine environment.

The ITLOS, in its analysis of the common expression “responsibility to ensure”, which is found in several international environmental treaties, interpreted it as a due diligence obligation, closely related to the precautionary principle (ITLOS. 2011, par. 110). However, one needs to consider the difficulty of describing the content of these obligations in specific terms. The notion of caution and due diligence changes: first, according to the nature of the activity and of the capability of the State to control the risks; second, because it can change in time, because the measures that are regarded as being sufficiently diligent at a certain point may not be at another, and *vice-versa*, in light of new scientific or technological knowledge. Therefore, the opinion holds that the due diligence standard must be the most demanding for high-risk activities (ITLOS. 2011, par. 117).

Last, the due diligence measures that the sponsoring States must take to meet their responsibilities compel them to enact effective laws. There is a determination here that the adoption of administrative laws and regulations is necessary. That is because not all obligations of a contracting party may be implemented via contract obligations (ITLOS. 2011, par. 218). Therefore, the content of the duty of caution is inseparable from the obligation of the State to act in legislative and administrative terms (BORGES, 2016, p. 78).

⁵⁴ In this sense: ITLOS. 2011, par. 131: “it is appropriate to point out that the precautionary approach is also an integral part of the general obligation of due diligence of sponsoring States, which is applicable even outside the scope of the Regulations”.

CONCLUSION

The precautionary approach is extremely relevant in a global risk society and, as a consequence, in the current international environmental law. However, its legal scope and applicability are complex, and continue to be, in a certain way, uncertain. The doctrine has long been denied – and many still do – its autonomy as an independent principle with mandatory application. Be that as it may, with the natural development of the law, the precautionary approach has become an objective principle with international applicability, especially with respect to the protection of the seas.

Although we are still not able to safely say that the precautionary approach is included in international law as an unchallenged principle, it has been given great steps over the last few years in this direction. Particularly with the contributions of the international jurisprudence, especially from the ITLOS, the precautionary approach is evolving and becoming an autonomous principle, with less uncertainty and subjectivity that caused so much apprehension for the States and doubt in the doctrine.

Without denying the importance of other environmental principles for the effective protection of the marine environment, the precautionary approach has a special place. It requires the implementation of specific protection measures from the State, even before any certainty about the damage that a certain activity might cause to the environment. Due to the complex nature of the environmental damage, difficulties in the assessments and often the impossibility to correct the damage, these preventive obligations adopted by the law – conventional or from custom – have a crucial role in the management of risks.

Nevertheless, it is acknowledged that the precautionary approach still needs to be better regulated and developed. The precautionary approach is not accepted as an indisputable principle in international environmental law. However, for legal protection of the seas, the principle has been increasingly applied, particularly by the ITLOS.

In conclusion, the precautionary approach, invoking the notions of risk, scientific uncertainty and irreversible damage, calls the legal domain to the solution of environmental issues of a global risk society. In this way, it seeks to transform the instruments of responsibility, compensation, sustainable development and consideration of the future generations, thereby significantly increasing the protection of the environment. The final success of the precautionary principle still depends on the progress of and on a few

changes in the international institutions, but it is clear that the precautionary approach has become a solid principle of international environmental law, especially in the protection of the marine environment.

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