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## THE HUMAN RIGHT TO ENVIRONMENT AND THE PEACEFUL USE OF NUCLEAR ENERGY\*

LUIS E. RODRÍGUEZ-RIVERA\*\*

### I. INTRODUCTION: THE 1959 INTER-AMERICAN SYMPOSIUM ON ATOMIC ENERGY AND LAW AND THE PUERTO RICO NUCLEAR REACTOR EXPERIENCE

Forty-six years ago, the University of Puerto Rico School of Law hosted the Interamerican Symposium on Atomic Energy and Law, recognized as the first meeting in the world focusing on the legal and administrative problems associated with peaceful atomic energy programs.<sup>1</sup> Given the similarity in the subjects covered in both the 1959 Puerto Rico Symposium and the present conference in Salzburg, Austria, I will briefly discuss some of the remarks made during the 1959 symposium.

The first symposium speaker was Dr. Shields Warren, Professor of Pathology at the Harvard Medical School. Dr. Warren began his presentation stating that “[a]lthough atomic energy, misused, can be a menace to this and future generations, although it deals with some of the most deadly poisons known to man, the industry is one of the safest in the world, and with due attention can be kept safe.”<sup>2</sup> This conclusion, however, seemed dramatically premature in light of the scientific uncertainties posed by him and other scientists at the Puerto Rico Symposium, and given how young the atomic energy industry was at the time. As exemplified later in his presentation, Dr. Warren acknowledged that “[i]nternal absorption of radioisotopes, such as might occur through an accident, through inadequate waste disposal, or through heavy fallout is possible. Usually the hazard from external radiation from these sources is greater than that from internal, even

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\* This is a revised version of the paper I presented during the Conference of Legal Experts and NGOs for the Updating of International Law in the Nuclear Energy Field sponsored by PLAGE (Plattform gegen Atomgefahren), Salzburg, Austria (Oct. 2005).

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1. The proceedings of this symposium were published in *ATOMIC ENERGY AND LAW: INTERAMERICAN SYMPOSIUM* (Jaro Mayda ed., 1960); see also Jaro Mayda, *Energía Nuclear y Derecho*, 29 REV. JUR. U.P.R. 81 (1959-60) (providing a brief summary of the symposium’s objectives, sponsors, participants and discussion issues).

2. Shields Warren, *Medical and Biological Effects of Radiation Exposure*, in *ATOMIC ENERGY AND LAW: INTERAMERICAN SYMPOSIUM* 55, 55 (Jaro Mayda ed., 1960).

under conditions of accident."<sup>3</sup> Thus, it was truly impossible to forecast accurately the risks associated with events whose effects had not yet been adequately measured, studied, or fully understood at the time.

A more honest assessment regarding the risks related to the atomic energy industry was provided by Dr. Forest Western, Deputy Director of the United States Atomic Energy Commission's Office of Health and Safety. Dr. Western succinctly pointed out that,

The only known method of avoiding all risks associated with exposure to radiation is to avoid the exposure. However, there are many things that we wish to do which cannot be done without some exposure to radiation. In some cases, the exposure to humans can be made as small as we wish, if we are willing to pay the cost in materials and effort. Our problem, then, is not how much exposure to radiation is safe, but how much are we willing to accept.<sup>4</sup>

Of course, the answer as to how much radiation exposure we are willing to accept depends on who controls the decision-making process, what criteria is taken into account, and whose interests deserve protection.

The Legal Advisor to the Mexican National Nuclear Energy Commission, Francisco Torres García, summarized the scientifically accepted conclusions of the time as:

- 1) Excessive absorption of ionizing radiation by a human being is dangerous for him and for his descendents.
- 2) The damage to him can be immediately obvious or delayed.
- 3) The nature of the damage and its extent are unforeseeable, which further aggravates the problem.<sup>5</sup>

He also quoted the following statement from a partial report of the period prepared by the Committee on Genetic Effects of Radiation, published by the National Academy of Sciences in the United States:

We can not pretend to eliminate all the risks, for that would be impossible; we can only try to establish some balance between the risks on the one hand, and the various benefits on the other hand. The troublesome and confusing matter is that humanity has to seek ways to reach a balanced judgment without knowing exactly what the risks are.

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3. *Id.* at 58.

4. Forest Western, *Standards of Protection Against Radiation Exposure*, in *ATOMIC ENERGY AND LAW: INTERAMERICAN SYMPOSIUM* 59, 61 (Jaro Mayda ed., 1960).

5. Francisco Torres García, *Some Legal Consequences of the Safety Problems Associated with Widespread Use of Radiation Sources*, in *ATOMIC ENERGY AND LAW: INTERAMERICAN SYMPOSIUM* 78, 80 (Jaro Mayda ed., 1960).

The scientists can not determine exactly to what biological risks we expose ourselves with respect to the various levels and types of radiation.<sup>6</sup>

Considering the high degree of scientific uncertainty surrounding the issue of radiation exposure, as well as the catastrophic nature of the potential damages, it is difficult to conceive of a moral framework, much less an international or regional legal framework, which would provide the foundation for the expansion of the atomic energy industry, albeit for peaceful use. In reading the proceedings of the 1959 Puerto Rico Symposium, one is inevitably confronted with many of the participants' utilitarian views while evaluating the issues at hand. Mr. Torres García, for instance, boldly declared as follows:

Just as air law was born in its time, it has fallen to the contemporary lawyers to witness the birth of a new legal branch which could be christened 'nuclear law.' From the time a professional jurist begins to approach the problems which this new source of energy presents, he is immediately forced to revise all his doctrinal and normative knowledge in law, as well as all the knowledge in the various fields which he has studied during his university career. Fortunately, the legal edifice in civilized countries rests on such solid pillars, and it has originated such a high intellectual and spiritual level that, no matter how difficult and novel is the attempt to adapt so old principles to so new problems, it will always be possible to reach satisfactory results, if the scholar and the professional lawyer in general are conscientious [sic] enough to accept the task of creating this new and special legal structure, so that the system of norms and principles of equity and justice, necessary for this new source of energy to yield its benefits and cease to be a danger, would be developed in the fields of private, public and, above all, international law.<sup>7</sup>

Some dissenting voices were present at the 1959 Puerto Rico Symposium, such as that of Dr. Carlos Alberto Dunshee De Abraches, Legal Advisor to the Brazilian Nuclear Energy Commission, whose main concern at the time was the third-party effects of the atomic energy industry's waste disposal practices:

Despite all these precautions, it is established that they are not sufficient to eliminate totally and permanently the harmful characteristics of the dangerous waste. A certain portion resists all the processing and has contributed to the increase of the existing natural radioactivity in the air, the water, and the soil. One aspect of this problem has begun to concern Brazilian scientists because of the increased risk which it represents for our country. It is known now that solid radioactive waste, proceeding from United States installations located close to the Atlantic coast, have been dumped into the sea in a region above a deep trough in the ocean bottom. England has done the same thing.... So it is most

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6. *Id.* at 79-80.

7. *Id.* at 78-79.

important that American scientists, administrators and lawyers seriously and urgently dedicate themselves to these problems, especially those which may affect populations, as the mentioned fact situation indicated.<sup>8</sup>

However, the dissenting voices were drowned out by other scientists and lawyers eager to articulate a legal system which would essentially transfer some, if not most, of the inherent risks associated with the peaceful atomic energy programs to other parties, including states, owners, operators, insurance companies, and individuals around the globe.

Dr. Enrique Zaldívar, Professor of Law at the Universities of Buenos Aires and La Plata and Legal Advisor to the Argentine National Atomic Energy Commission, emphasized the international character of the nascent nuclear energy law given that nuclear damages easily become extraterritorial.<sup>9</sup> He posited that the following questions were fundamental to the development of a legal system for atomic or nuclear energy the first five as primary questions, the next five as secondary ones, and the last five as questions of procedural and economic issues:

- 1) Is it necessary to establish special rules of state responsibility for these damages, or can we consider the positive international law as already containing norms to solve the conflicts which can arise in this connection?
- 2) Should states be considered liable in all cases for extraterritorial damages caused by nuclear activities carried on within their boundaries?
- 3) Or should this liability be limited to activities engaged in on basis of a previous license by the state?
- 4) In each of the preceding situations, should the liability of the state be joint with, or subsidiary to, the liability of the owner, operator, etc. of the nuclear installation which caused the accident?
- 5) Should state be internationally liable although the accident has not been caused by fault either on the part of the state, or of the owner, operator, etc. of the nuclear installation? In other words, can the doctrine of absolute liability, generally applied in other fields of law, be extended to the liability of states?

...

- 1) Should states be considered internationally liable for extraterritorial damages caused by carriage of nuclear materials, for means of transportation with nuclear propulsion, or for disposal of radioactive

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8. ATOMIC ENERGY AND LAW: INTERAMERICAN SYMPOSIUM, *supra* note 1, at 85-86.

9. Enrique Zaldívar, *The Legal Framework of Atomic Energy Programs: Need for a Uniform Legislative Action on National and International Levels*, in ATOMIC ENERGY AND LAW: INTERAMERICAN SYMPOSIUM 176, 180 (Jaro Mayda ed., 1960).

materials on high seas, although all these acts have taken place outside of their territorial limits?

2) Which type of damage would the state liability enclose: the immediate (“damnum emergens”), all the losses caused by the tortious act (“lucrum cessans”), cost of measures preventing the damages, costs of investigation, etc.; or only some of these items?

3) Should there be a limit on the liability of states?

4) Should these claims be subject to a statute of limitations?

5) Should there be special rules about joint liability of states for damages caused jointly or cumulatively?

...

[C]onvenience or lack of convenience of establishing an obligatory international adjudication and special tribunals which would decide these disputes; if these tribunals are set up, the determination of their powers and jurisdiction; the establishment of a permanent technical-scientific body to determine nuclear damages, their causes, safety measures, procedures; the conclusion of agreements about convertibility of the indemnity payments; and finally, the adoption of all the rules indicated at this stage.<sup>10</sup>

The answers to most of these questions, originally posed in the 1959 Puerto Rico Symposium, have evolved into several international and regional conventions and customary law norms to form an area of international law applicable to the peaceful use of atomic or nuclear energy. I will return to this issue later.

I cannot conclude my summary of the 1959 Puerto Rico Symposium without discussing Puerto Rico's unfortunate experience with nuclear energy. In the final presentation at the above-mentioned symposium, a local government official informed the audience that Puerto Rico and the United States Atomic Energy Commission were close to completing a feasibility study “to construct a reactor of an advanced type, using superheated steam.”<sup>11</sup> The feasibility study was completed soon thereafter, and a contract for the construction of the reactor was signed less than two months after the 1959 Puerto Rico Symposium.<sup>12</sup>

The prototype nuclear power plant BONUS (Boiling Nuclear Superheater) reactor “first achieved a controlled nuclear chain reaction on April 13, 1964... Operation at full power (50 megawatts of thermal energy) and full temperature... was achieved in September 1965... Operation of the BONUS reactor was terminated in June 1968 because of technical difficulties and the ensuing need for

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10. *Id.* at 180-81.

11. José Vila Ruiz, *Legal and Administrative Problems of Establishing a Power Reactor in Puerto Rico*, in *ATOMIC ENERGY AND LAW: INTERAMERICAN SYMPOSIUM 231*, 231 (Jaro Mayda ed., 1960).

12. *Id.*

high-cost modifications.”<sup>13</sup> As part of the decommissioning of the BONUS facilities,

[A]ll special nuclear materials (fuel) and certain highly activated components (e.g., control rods and shims) were removed to the mainland, all piping systems flushed, the reactor vessel and associated internal components within the biological shield were entombed in concrete and grout, and systems external to the entombment were decontaminated. Many contaminated and activated materials were placed in the main circulation pump room beneath the pressure vessel and entombed in concrete. General decontamination of the reactor was performed with the goal of meeting unrestricted use criteria in all accessible areas of the building. Residual radioactive materials remaining in the structure were isolated or shielded to protect site visitors and workers. During subsequent years, more radioactive contamination was identified in portions of the building, and additional cleanup and shielding activities were conducted in the 1990s and early 2000s.<sup>14</sup>

However, as reported by James Anderson of the Associated Press, “[o]ver the years, residents and local press reports suggested that a radiation leak forced the shutdown. Fishermen delivered tales of giant lobsters and crabs lurking offshore.”<sup>15</sup> Puerto Ricans have been the last to know about the health and environmental risks related to the BONUS facilities that they faced and may continue to face.

For years, BONUS remained a faded memory kept alive by local story telling amidst the backdrop of one of the most beautiful beaches on the island in the northwestern municipality of Rincón, Puerto Rico.<sup>16</sup> Then, in September, 2000, the Puerto Rican Legislature and the Governor approved the creation of a technological museum in the BONUS reactor facilities.<sup>17</sup> Later, in 2003, the Puerto Rico Electric Power Authority announced the arrival of Jeffrey S. Merrifield, Commissioner of the United States Nuclear Regulatory Commission, who traveled to visit the BONUS facilities and learn more about Puerto Rico’s plans to convert them into a museum.<sup>18</sup> Recently, the United States Department of

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13. U.S. DEP’T OF ENERGY, OFF. OF LEGACY MGMT., *BONUS, Puerto Rico, Decommissioned Reactor: Fact Sheet*, <http://www.lm.doe.gov/documents/sites/pr/bonus.pdf>.

14. *Id.*

15. James Anderson, *Puerto Rico Nuke Museum Said Safe*, ASSOCIATED PRESS, Nov. 29, 1999, available at <http://mailman.mcmaster.ca/mailman/private/cdn-nucl-1/9911.gz/msg00057.html>.

16. See *BONUS: Factsheet*, *supra* note 13. The BONUS facilities, with its distinctive green dome structure, are adjacent to and overlook the recently designated Tres Palmas Marine Reserve, and several world class surfing beaches. See Surfrider Foundation, *Reserva Marina Tres Palmas*, <http://www.surfrider.org/rincon/rmtp.asp> (2006).

17. P.R. LAWS ANN. tit. 23 § 188u (2000).

18. Press Release, Autoridad De Energia Electrica, AEE recibe primera visita a Puerto Rico de un Comisionado Presidencial de la Nuclear Regulatory Commission, (Dec. 2, 2003), <http://www.prepa.com/noticias.asp?r=QIJHIUSNAR>.

Energy (DOE) reported that the BONUS facilities are expected to be transferred to its Office of Legacy Management in 2006.

The Puerto Rico reactor facilities will become the Department's fifth Decontamination and Decommissioning site "because the Bonus site contains an entombed reactor that requires long-term surveillance and monitoring activities similar to the entombed reactors at Piqua and Hallam, and the same DOE guidance for long-term surveillance and monitoring activities apply."<sup>19</sup> Nonetheless, the information provided by the U.S. Department of Energy on its web site confirms that the Puerto Rico Government intends to use the main floor of the Bonus building as a museum. As for the issue of public safety, the U.S. Department of Energy's Fact Sheet on BONUS states, "DOE completed an environmental assessment in 2003 that indicated no unacceptable risk to human health or the environment if the main floor is used as a museum."<sup>20</sup> Regardless of this statement, the museum serves as a constant reminder of the risks States impose on their citizens in clear violation of the human right to life and dignity.

Today, in the year 2007, we are still debating what constitutes acceptable and unacceptable radiation exposure risks.<sup>21</sup> In essence, the same question that was pervasive at the 1959 Puerto Rico Symposium remains salient today: Acceptable risk to whom? We must ask ourselves, has anyone bothered to ask those whose lives and dignity have been put at risk whether the risks are acceptable to them?

## II. THE RIGHT TO A SAFE AND HEALTHY ENVIRONMENT AND ITS RELEVANCE TO THE PEACEFUL USE OF NUCLEAR ENERGY

International environmental law includes the substantive, procedural, and institutional norms that derive from: hundreds of multilateral environmental treaties; over a thousand bilateral environmental treaties; and numerous intergovernmental instruments addressing many environmental issues, such as declarations, resolutions, and programs of action; and substantial juridical principles applicable to environmental issues found in customary international law. As a branch of general international law, international environmental law is inherently interdisciplinary and shares with other international law areas concepts, issues, and strategies.<sup>22</sup>

While the development of international environmental law has dramatically altered international relations relating to environmental issues, there needs to be further development in order to for the international community to cope properly

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19. U.S. DEP'T OF ENERGY, OFF. OF LEGACY MGMT, *BONUS Decommissioned Reactor: Regulatory Framework*, [http://www.lm.doe.gov/land/sites/pr/bonus/bonus\\_framework.htm](http://www.lm.doe.gov/land/sites/pr/bonus/bonus_framework.htm).

20. *BONUS: Factsheet*, *supra* note 13.

21. See Health Physics Society, Policy, Guidelines, and Regulations — Dosimetry and Exposure Limits, <http://www.hps.org/publicinformation/ate/q1152.html> (last modified Sept. 20, 2004):

22. Luis E. Rodríguez-Rivera, *Is the Human Right to Environment Recognized Under International Law? It Depends on the Source*, 12 *COLO. J. INT'L ENVTL. L. & POL'Y* 1, 6 (2001).



with the complexities of modern environmental problems. As I previously expressed in a prior essay,

One obvious gap not covered by international environmental law involves the protection of human life and dignity from threats associated with environmental degradation, especially when such threats result as a consequence of actions or inactions taken by an individual's own national government. This is the area of international law where international human rights issues overlap with international and national environmental issues. It is also an area where much scholarly debate has taken place, and where consensus is still lacking as to the appropriate approach to be undertaken.<sup>23</sup>

It is precisely within this gap in public international law that the peaceful use of nuclear energy or nuclear law intersects with international environmental law.

The use of nuclear weapons during armed conflict, as well as the peaceful use of nuclear energy, poses potential catastrophic threats to all of humanity. The International Court of Justice recognized the cataclysmic nature and the environmental risks associated with the use of nuclear weapons in its 1996 *Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons*:

The Court recognizes that the environment is under daily threat and that the use of nuclear weapons could constitute a catastrophe for the environment. The Court also recognizes that the environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn... In applying this law to the present case, the Court cannot however fail to take into account certain unique characteristics of nuclear weapons... [The Court] also notes that nuclear weapons are explosive devices whose energy results from the fusion or fission of the atom. By its very nature, that process, in nuclear weapons as they exist today, releases not only immense quantities of heat and energy, but also powerful and prolonged radiation... These characteristics render the nuclear weapon potentially catastrophic. The destructive power of nuclear weapons cannot be contained in either space or time. *They have the potential to destroy all civilization and the entire ecosystem of the planet.*

The radiation released by a nuclear explosion would affect health, agriculture, natural resources and demography over a very wide area. Further, the use of nuclear weapons would be a serious danger to future generations. Ionizing radiation has the potential to damage the future environment, food and marine ecosystem, and to cause genetic defects and illness in future generations... *[I]t is imperative for the Court to take account of the unique characteristics of nuclear weapons, and in*

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23. *Id.* at 9.

*particular their destructive capacity, their capacity to cause untold human suffering, and their ability to cause damage to generations to come.*<sup>24</sup>

Even though the International Court of Justice could not find a principle in international law to prohibit the threat or use of nuclear weapons, the tone it set in describing the inhumane nature of its use established an excellent precedent for applying a human rights or international criminal law approach to critiquing the peaceful use of nuclear energy.

Since its inception in the late 1950's, the very legal system that has served as the foundation for the development of the peaceful nuclear energy industry (nuclear law) has ignored the human rights component of its international character. The balancing of risks and benefits inherent in nuclear energy decision-making ignores the preemptive nature of recognized human rights, and evinces a complete violation of recognized human rights where decisions made or acquiesced to by states create grievous threats to present and future generations of its people, as well as the environment.

Moreover, the peaceful nuclear energy industry has also ignored the "untold human suffering" it has the capacity to impose upon present and future generations and the environment.<sup>25</sup> Every time humans and the environment are exposed to significant radiation "untold human suffering" results.<sup>26</sup> The threat of a radiation exposure incident triggered by human or technological mistakes in a nuclear energy plant or in the transportation and storage of radioactive fuel and wastes is undeniable, expected, and catastrophic.<sup>27</sup> Given the acknowledged and enormous risks associated with the development and use of nuclear energy, even in times of peace, any incident that causes significant radiation exposure to humans and the environment should be considered an act against humanity that violates international criminal law principles.

Although much has been discussed and agreed to regarding state responsibility and liability for extraterritorial damages caused by the peaceful use of nuclear energy has been analyzed extensively, academic and scholarly debate is now focused on the best approaches for the allocation of risks and liabilities.<sup>28</sup> Nonetheless, the human rights of individuals whose lives and dignity are threatened by actions or omissions of their own national governments participating in the peaceful use of nuclear energy remain ignored today. Also non-existent is the use of an international criminal law approach to the peaceful use of nuclear energy. However, I will focus my attention hereinafter on the application of a

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24. Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, 1996 I.C.J. 226, 241-44 (July 8) (emphasis added).

25. *Id.* at 244.

26. *Id.*

27. See Eric Pianin and Helen Dewar, *In Nuclear Waste Site Debate, Visions of Transport Disaster*, WASH. POST, July 8, 2002, at A03, available at <http://www.washingtonpost.com/ac2/wp-dyn?pagename=article&contentid=A36463-2002Jul7&notFound=true>.

28. See, e.g., Michael Trebilcock & Ralph A. Winter, *The Economics of Nuclear Accident Law*, 17 INT'L REV. L. & ECON. 215 (1997).

human rights approach to nuclear law, leaving an exploration into the application of international criminal law to the peaceful use of nuclear energy for a future author.<sup>29</sup>

At present, new threats to humanity stemming from the peaceful use of nuclear energy continue to emerge, such as the discovery of radioactive pollution in the Arctic Ocean linked to the former Soviet Union,<sup>30</sup> the use of low frequency active sonar by military naval forces to locate submarines, and the continuous shipment of ultra-hazardous radioactive materials between Europe and Japan.<sup>31</sup> One possible mean of validating the rights of individuals imperiled by the threat of radiation exposure is to enforce the human right to a safe and healthy environment using international, regional, and national human rights mechanisms.

The best approach to understanding the strategic importance of recognizing an expansive human right to environment is in the context of the *trumping* effect of rights in our society.<sup>32</sup> Professor J.G. Merrills expressed this phenomenon as follows:

Although rights are a part and not the whole of morality, having rights is significant in at least two ways. First, if I can show that I have a moral right to, say, a clean environment I have something which has to be taken into account in any discussion of the moral aspects of environmental policy. I am, so to speak, a player in the morality game. Secondly, and perhaps even more important, such is the value that attaches to rights that if I am a rights-holder I am not just a player, but a serious, indeed a privileged player in the game. That is to say my right will tend to pre-empt not only preferences and other non-moral considerations, but other moral considerations as well. What is true of moral rights is true *a fortiori* of legal rights. Thus having environmental rights, for example, incorporated in a constitution or recognized in international law cannot guarantee that the putative rights-holder will be successful in every dispute in which the right may be relevant, but certainly creates a situation in which not only must the right always be considered, but very good reasons will be needed for denying it effect.<sup>33</sup>

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29. I believe that the International Court of Justice's reasoning in its 1996 Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons provides the necessary tools for the application of an international criminal law analysis to nuclear law, both in times of peace and war. However, this is a theory which needs further development and articulation. See Legality of the Threat or Use of Nuclear Weapons, *supra* note 24.

30. See Lakshman D. Guruswamy & Jason B. Aamodt, *Nuclear Arms Control: The Environmental Dimension*, 10 COLO. J. INT'L ENVTL. L. & POL'Y 267, 268 (1999).

31. Jon M. Van Dyke, *Active Sonar & Shipments of Radioactive Materials*, 2002 COLO. J. INT'L ENVTL. L. & POL'Y 1 (2002).

32. See generally RONALD DWORKIN, *TAKING RIGHTS SERIOUSLY* (1977).

33. J.G. Merrills, *Environmental Protection and Human Rights: Conceptual Aspects*, in HUMAN RIGHT'S APPROACHES TO ENVIRONMENTAL PROTECTION 25, 26-27 (Alan E. Boyle & Michael R. Anderson eds., 1996).

When so used as a *trump* card, the effect of an expansive human right to environment "is to demand a response rather than a silence and a response which must be formulated in a way which takes account of the *content* of the right."<sup>34</sup> I will now proceed to briefly describe the content of the expansive human right to environment.

### III. CONTENT OF THE HUMAN RIGHT TO ENVIRONMENT

The expansive human right to environment contains three broad categories of rights articulated by scholars: the substantive and anthropocentric right to environment, the substantive and eco-centric right of environment, and the procedural environmental rights. An exposition of the human right to environment is necessary to address effectively modern environmental problems. I will now address the three categories identified above.

#### A. *Right to Environment*

Many adjectives have been used to describe the term *environment* and provide it with a substantive standard of environmental quality to which humans have a right to live under international and national laws. The most frequently used adjectives are: safe, satisfactory, secure, healthy, healthful, decent, adequate, clean, pure, natural, viable, ecologically-sound, and ecologically-balanced.

These adjectives may provide a vague substantive description, but I refer to the *right to environment* as a human right to live in an environment of minimum quality that still allows for the realization of a life of dignity and well-being. Of course, one may be confronted with the question of whether it is actually possible to determine such a precise minimum standard of environmental quality. However, uncertainty and ambiguity are common in the articulation of most human rights, and should not act as obstacles to the implementation and enforcement of recognized human rights. As Alexandre Kiss and Dinah Shelton so aptly noted, "in the public conscience of a given society, these concepts can have sufficient precision to permit a judge or administrator to apply them. For the most part rights and liberties will be taken from the abstract and given meaning in a concrete social and historical context."<sup>35</sup>

National and international tribunals have historically articulated substantive standards from abstract norms. Thus, I have no doubt that specific environmental qualitative standards may also be derived from vague, ambiguous, and abstract general terms, such as the adjectives referenced above. In determining the minimum qualitative standards contained in the *right to environment*, tribunals will have to balance conflicting visions and values of human life. Arguably, it is precisely the role of tribunals to interpret and enforce rights generally, and human rights specifically.<sup>36</sup> Once a tribunal determines the minimum qualitative standard

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34. Wade Mansell & Joanne Scott, *Why Bother About a Right to Development?*, 21 J.L. & SOC'Y 171, 179 (1994).

35. ALEXANDRE KISS & DINAH SHELTON, *INTERNATIONAL ENVIRONMENTAL LAW* 23 (1991).

36. See François Du Bois, *Social Justice and the Judicial Enforcement of Environmental Rights and Duties*, in *HUMAN RIGHTS APPROACHES TO ENVIRONMENTAL PROTECTION* 153, 153-54 (Alan Boyle & Michael Anderson eds. 1996).

encompassed in the *right to environment*, safeguarding the standard would preempt the balancing test used in peaceful nuclear energy decision-making. Moreover, in the public conscience today there is "a clear image of an environment which should be preserved and from which each person should benefit."<sup>37</sup>

### B. *Right of Environment*

The *right of environment* articulates the philosophical theory that the *environment* is entitled to rights based on its own intrinsic value, separate and distinct from those attributed to it through human use. Read textually, the human right to environment and the right of environment are incompatible concepts, given that the former is anthropocentric and the latter eco-centric. However, Professors Kiss and Shelton solved this conundrum by proposing that the *right of environment* is in fact a fundamental element in the construction of the *right to environment*:

While this ultimate aim of human survival remains anthropocentric, humans are not viewed as apart from or above the natural universe, but as an interlinked and interdependent part of it. It follows that because all parts of the natural web are linked, they must each be protected and conserved. It is in this sense that "intrinsic value" may be understood.<sup>38</sup>

Viewing humans and nature as interconnected allows us to reach the conclusion that both must be safeguarded. Thus, the *right of environment* (with its eco-centric philosophical foundation) should be integrated as a substantive component of the expansive *right to environment*.

### C. *Environmental Rights*

*Environmental rights* are the procedural human rights necessary for effectively implementing the substantive components of the expansive *right to environment*. Among the recognized *environmental rights* are the following: access to environmental information; participation in the decision-making process of environmental policies; availability of legal remedies to redress environmental harm; and general due process rights.<sup>39</sup>

Some scholars prefer to treat *environmental rights* as a separate category akin to civil and political human rights.<sup>40</sup> However, I prefer to describe them as the procedural component of the *right to environment* given that absent the substantive components of the expansive *right to environment*, the *environmental rights* are ineffective in impacting a state's decision-making process.

In sum, the content of the expansive formulation of *human right to environment* includes qualitative environmental standards defined by the substantive components of the *right to environment* and *right of environment*, as

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37. KISS & SHELTON, *supra* note 35, at 24.

38. *Id.* at 11.

39. See Conference on Environment and Development, June 3-14, 1992, *Rio Declaration on Environment and Development*, princ. 10, U.N. Doc A/Conf.151/26 (Aug. 12, 1992).

40. See Alexandre Kiss, *International Human Rights Law and Environmental Problems: An Introductory Note on a Human Right to Environment*, <http://www.unu.edu/unupress/unupbooks/uu25ee/uu25ee0k.htm> (last visited Oct. 14, 2006).

well as procedural guarantees provided by the recognized *environmental rights*. It is to this formulation of the expansive *right to environment* that I will refer to in discussing the existence or emergence of a human right to environment under international law.

#### IV. THE SOURCES OF THE HUMAN RIGHT TO ENVIRONMENT

When evaluating the *legal* sources of the expansive formulation of the *human right to environment*, one must begin chronologically with the international human rights instruments that *implicitly* support its existence. I summarized these implicit sources as follows:

The Universal Declaration of Human Rights contains several applicable rights and entitlements: article 3 (right to life, liberty and security of the person); article 22 (entitlement to the realization of economic, social and cultural rights indispensable for dignity and the free development of personality); article 24 (right to rest and leisure); article 25 (right to standard of living adequate for health and well-being, including food and housing); and article 28 (entitlement to social and international order in which human rights can be fully realized). The International Covenant on Economic, Social and Cultural Rights, in articles 1 (right to self-determination and right to freely dispose of natural wealth and resources), 7 (right to decent living, safe and healthy working conditions, and rest and leisure), 11 (right to adequate standard of living, including food and housing, and to the continuous improvement of living conditions), 12 (right to health, including to improvement of all aspects of environmental and industrial hygiene), and 15 (right to cultural life and to benefits of scientific progress and its applications), contains implicit support for the right to environment. The International Covenant on Civil and Political Rights also supports implicitly the right to environment in the following provisions: article 1 (right to self-determination and right to freely dispose of natural wealth and resources); article 6 (right to life); article 7 (protection from cruel, inhuman, or degrading treatment); article 17 (right to privacy); and article 20 (prohibition of propaganda for war). Of course, international instruments covering specific environmental problems, as well as human rights which are linked to environmental protection, also can be interpreted as implicitly supporting the expansive formulation of the human right to environment.<sup>41</sup>

The first international instrument to incorporate a human rights approach to environmental protection was the 1972 Stockholm Declaration.<sup>42</sup> Principle 1 of the Stockholm Declaration provides that “[m]an has the fundamental right to freedom, equality and adequate conditions of life, *in an environment of a quality*

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41. Rodríguez-Rivera, *supra* note 22, at 23 (footnotes omitted).

42. See Conference on the Human Environment, June 5-16, 1972, *Declaration of the United Nations Conference on the Human Environment*, U.N. Doc. A/Conf.48/14/Rev.1 (June 16, 1972), reprinted in 11 I.L.M. 1416 [hereinafter Stockholm Declaration].

*that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations.*"<sup>43</sup>

In the 1980s, two regional instruments *expressly* recognized a substantive human right to environment. First in 1981, Article 24 of the African Charter on Human and People's Rights declared that "[a]ll peoples shall have the right to a general satisfactory environment favourable to their development."<sup>44</sup> A few years later, Article 11 of the 1988 San Salvador Protocol stated "[e]veryone shall have the right to live in a healthy environment....The States' Parties shall promote the protection, preservation and improvement of the environment."<sup>45</sup>

During the 1990s, more evidence on the emergence of a human right to environment continued to accumulate. The United Nations General Assembly emphasized several times during this period the link between environmental protection and the realization of human rights. In 1990, the General Assembly specifically recognized "that all individuals are entitled to live in an environment adequate for their health and well-being."<sup>46</sup>

That same year, the United Nations Commission on Human Rights adopted resolution 1990/41 reiterating the link between environmental protection and the realization of human rights.<sup>47</sup> Moreover, the Sub-Commission on Prevention of Discrimination and Protection of Minorities' ("Sub-Commission") decision to study the problems of the environment and the promotion of human rights was received positively by the U.N. Commission on Human Rights. This study was undertaken by Special Rapporteur Mrs. Fatma Zohra Ksentini.<sup>48</sup> In 1994, the Draft Principles on Human Rights and the Environment ("Draft Declaration") were prepared by a group of international experts, and incorporated into Mrs. Ksentini's Final Report.<sup>49</sup> Both of these documents *explicitly* recognized an existing and expansive human right to environment under international law.<sup>50</sup> The Ksentini Final Report indicated that there existed a "universal acceptance of the environmental rights recognized at the national, regional and international levels."<sup>51</sup> Similarly, the Draft Declaration stated that "[a]ll persons have the right to a secure, healthy and ecologically sound environment."<sup>52</sup>

43. *Id.* at princ. 1 [emphasis added].

44. African [Banjul] Charter on Human and People's Rights, art. 24, June 27, 1981, OAU Doc. CAB/LEG/67/3 rev. 5, 1520 U.N.T.S. 217. *reprinted in* 21 I.L.M. 58.

45. Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights, art. 11, Nov. 17, 1988, O.A.S.T.S. No. 69, *reprinted in* 28 I.L.M. 156.

46. G.A. Res. 45/94, ¶ 1, U.N. Doc. A/RES/45/94 (Dec. 14, 1990).

47. *Id.* at pmbl.

48. See U.N. Econ. And Soc. Council [ECOSOC], Sub-Comm. on Prevention of Discrimination & Prot. of Minorities, *Review of Further Developments in Fields with Which the Sub-Committee has been Concerned*, U.N. Doc. E/CN.4/Sub.2/1994/9, (July 6, 1994) (*prepared by* Mrs. Fatma Zohra Ksentini, Special Rapporteur) [hereinafter *Final Report*].

49. See *Draft Principles on Human Rights and the Environment*, May 16, 1994, U.N. Doc. E/CN.4/Sub.2/1994/9.

50. See *id.*, at ¶¶ 1-4; see *Final Report*, *supra* note 48, at ¶¶ 4-7.

51. *Final Report*, *supra* note 48, at ¶ 240.

52. *Id.* at Annex I, ¶ 2.

In the first of her two Background Papers to the 2002 Joint UNEP-OHCHR Expert Seminar on Human Rights and the Environment held in Geneva, Prof. Dinah Shelton identified dozens of international and regional treaties entered into during the 1990s that incorporated *environmental rights*, and in a few cases the *right to environment*.<sup>53</sup> In her second Background Paper to the referenced seminar, Prof. Shelton evaluated the significant decisions of human rights bodies during the decade. In that paper's summary, she explained:

Nearly all global and regional human rights bodies have considered the link between environmental degradation and internationally-guaranteed human rights. In nearly every instance, the complaints brought have not been based upon a specific right to a safe and environmentally-sound environment, but rather upon rights to life, property, health, information, family and home life. Underlying the complaints, however, are instances of pollution, deforestation, water pollution, and other types of environmental harm.<sup>54</sup>

The 1990's also witnessed an exponential growth of cases brought before national courts to vindicate the *right to environment*. When a country's constitution expressly guaranteed the right to environment (over 100 national constitutions have incorporated specific provisions relating to the environment), courts did not hesitate to interpret and enforce those constitutional provisions.<sup>55</sup> On the other hand, when a country's constitution failed to affirm the right to environment, courts found support for the complaints by reinterpreting other recognized constitutional rights such as the right to life, privacy, health, etc.<sup>56</sup>

The majority opinion issued by the International Court of Justice in the 1997 *Case Concerning the Gabcikovo-Nagymaros Project (Hungary/Slovakia)* addressed in dicta the importance of environmental issues and the development of new norms in international law to address them:

The Court is mindful that, in the field of environmental protection, vigilance and prevention are required on account of the often irreversible character of damage to the environment and of the

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53. See Off. of the U.N. High Commissioner for Human Rights, Joint UNEP-OHCHR Expert Seminar on Human Rights and the Environment, *Human Rights and Environment Issues in Multilateral Treaties Adopted between 1991 and 2001*, §§ A, B (Jan. 14–16, 2002), (prepared by Dinah Shelton), available at <http://www.ohchr.org/english/issues/environment/environ/bp1.htm>.

54. Off. of the U.N. High Commissioner for Human Rights, Joint UNEP-OHCHR Expert Seminar on Human Rights and the Environment, *Human Rights and Environment: Jurisprudence of Human Rights Bodies*, Summary, (Jan. 14–16, 2002), (prepared by Dinah Shelton), available at <http://www.ohchr.org/english/issues/environment/environ/bp2.htm>.

55. See INTERNATIONAL ENVIRONMENTAL LAW REPORTS, VOL. 4: INTERNATIONAL ENVIRONMENTAL LAW IN NATIONAL COURTS xxxviii-xl (Alice Palmer and Cairo A.R. Robb eds. 2004).

56. See, e.g., Off. of the U.N. High Commissioner for Human Rights, Joint UNEP-OHCHR Expert Seminar on Human Rights and the Environment, *Human Rights and the Environment: the national experience in South Asia and Africa*, Jan. 14–16, 2002, (prepared by Dr. Jona Razzaque), available at <http://www.ohchr.org/english/issues/environment/environ/bp4.htm>.



limitations inherent in the very mechanism of reparation of this type of damage.

Throughout the ages, mankind has, for economic and other reasons, constantly interfered with nature. In the past, this was often done without consideration of the effects upon the environment. Owing to new scientific insights and to a growing awareness of the risks for mankind – for present and future generations – of pursuit of such interventions at an unconsidered and unabated pace, *new norms and standards have been developed, set forth in a great number of instruments during the last two decades*. Such new norms have to be taken into consideration, and such new standards given proper weight, not only when States contemplate new activities but also when continuing with activities begun in the past.<sup>57</sup>

The separate opinion submitted by the Court's Vice-President, Judge Weeramantry, on the other hand, *expressly* recognized the existence of a human right to environmental protection under modern international law.<sup>58</sup> In 1999, United Nations Educational, Scientific, and Cultural Organization and the United Nations High Commissioner for Human Rights organized the International Seminar of Experts on the Right to the Environment, which issued the Bizkaia Declaration on the Right to the Environment.<sup>59</sup> Article 1 of the Bizkaia Declaration recognizes that “[e]veryone has the right, individually or in association with others, to enjoy a healthy and ecologically balanced environment... [which] may be exercised before public bodies and private entities, whatever their legal status under national and international law.”<sup>60</sup>

The events subsequently triggered by the drafting of the Bizkaia Declaration on the Right to the Environment provide an example of how the modern international legal order operates. Upon the approval of the Bizkaia Declaration by the International Seminar of Experts in February 1999, the Bizkaia General Assembly adopted the Declaration in April 1999.<sup>61</sup> During that same month, the Bizkaia Declaration was then submitted to the Sub-Commission of the Fiftieth Anniversary of the Universal Declaration of Human Rights, which issued a report describing the Declaration as a contribution possessing wide support.<sup>62</sup>

Based on this last report, the Spanish Lower House voted unanimously to support the Declaration.<sup>63</sup> An official presentation of the Bizkaia Declaration was

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57. Gabcikovo-Nagymaros Project (Hung. v. Slov.), 1997 I.C.J. 7, 78 (Sept. 25).

58. *Id.* at 90 (separate opinion of Judge Weeramantry).

59. International Seminar on the Right of the Environment, Feb. 10-13, 1999, *Declaration of Bizkaia on the Right to the Environment*, U.N. Doc. 30C/INF.11 (Sept. 24, 1999), available at <http://unesdoc.unesco.org/images/0011/001173/117321E.pdf>.

60. *Id.* at art. 1.

61. Declaration of Bizkaia on the right to the environment, *Key Actions*, <http://www.gurelurra.net/english/trayec.html> (last visited Nov. 11, 2006).

62. *Id.*

63. *Id.*

later presented to the President of the Swiss Confederation, who promised to distribute it through his country's appropriate government channels.<sup>64</sup> In June 1999, the Basque Parliament unanimously approved the adherence to the Chamber of the Bizkaia Declaration, and in September 1999, the Andalusia Parliament announced its support.<sup>65</sup> In October 2000, the Conference of Legislative Assemblies of the Regions of Europe unanimously approved the Bizkaia Declaration and expressed that "it understands that there is a fundamental right to enjoy a healthy, ecologically balanced environment."<sup>66</sup>

In January 2003, the Parliamentary Assembly of the Council of Europe made an appeal to "political players of the member States of the European Union to recognise the binding nature on an international level of the right to the environment, since existing fundamental rights are insufficient on the subject of the environment."<sup>67</sup> Subsequently, the Parliamentary Assembly proposed the recognition of the human right to the environment through a protocol to the European Charter on Human Rights.<sup>68</sup> A group of citizens from Bizkaia and Spanish environmental groups spearheaded all these efforts.

In February 2003, Jean Michel Cousteau, a prominent environmentalist, announced his adherence to the Bizkaia Declaration and committed himself to spreading and disseminating this proposal throughout the world.<sup>69</sup> Later in 2003, I met Mr. Cousteau in Puerto Rico and learned of all the efforts related to the Bizkaia Declaration undertaken by non-governmental organizations. Presently, the Bizkaia Declaration has not received the approval of the Committee of Ministers of the Council of Europe; nonetheless, its impact has been significant, and it is only a matter of time before the Bizkaia Declaration or a similar statement on the right to environment is accepted by the Council of Europe, as well other global actors.<sup>70</sup>

Finally, in January 2002, the Joint UNEP-OHCHR Expert Seminar on Human Rights and the Environment met in Geneva and issued several conclusions. In essence, the experts recognized a growing correlation between human rights and environmental protection. This link was reflected "in developments relating to procedural and substantive rights, in the activities of international organizations, and in the drafting and application of national constitutions."<sup>71</sup> The experts also noted a growing national and international acceptance of *environmental rights*, as

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64. *Id.*

65. *Id.*

66. *Id.*

67. *Id.*

68. *Id.*

69. *Id.*

70. *Id.*; EUR. PARL. DOC. (COM 9791) Summary (2003), available at <http://assembly.coe.int/documents/workingdocs/doc03/edoc9791.htm> (proposing measures and action items to be discussed with members).

71. Off. of the U.N. High Commissioner for Human Rights, Joint UNEP-OHCHR Expert Seminar on Human Rights and the Environment,, *Conclusions*, ¶ 4 (Jan. 14-15, 2002), available at <http://www.ohchr.org/english/issues/environment/environ/conclusions.htm>.

well as a substantial body of national and international tribunal decisions recognizing violations of human rights in response to environmental degradation.<sup>72</sup>

This overview of the sources of the *human right to environment* can be supplemented with considerable amount of soft law under international law. Although it is clear to me that we are dealing in a modern international legal system that recognizes the existence of the *human right to environment*, I also understand that the answer to the question of whether this right is recognized under international law will ultimately depend on the criteria used in making this determination. In other words, confirming the existence of a *human right to environment* ultimately rests on whether one adopts a traditional or modern view on the sources of international law.

#### V. TRADITIONAL SOURCES DOCTRINE VERSUS MODERN APPROACH

The formal or traditional sources of international law are articulated in article 38(1) of the Statute of the International Court of Justice:

- (a) international conventions, whether general or particular, establishing rules expressly recognized by the contesting states;
- (b) international custom, as evidence of a general practice accepted as law;
- (c) the general principles of law recognized by civilized nations;
- (d) . . . judicial decisions and the teachings of the most highly qualified publicists of the various nations, as subsidiary means for the determination of rules of law.<sup>73</sup>

According to the traditionalist interpretation doctrine, the above list contains the only acceptable evidence of a state's consent or commitments. However, as I have stated before, "this attitude towards the addition of other sources is inconsistent with the evolution of modern international law, and does not reflect the activities that contribute to the development of new norms, such as those derived from acts of international institutions."<sup>74</sup>

Professor Dinah Shelton has written about the new challenges we face in a globalized world where powerful non-state actors may violate human rights in ways not previously anticipated.<sup>75</sup> Likewise, non-state actors now have the tools to protect individuals from human rights violations imposed on them by their own governments. Modern international law has incorporated new players, and, more importantly, new ways to corroborate the existence of new human rights.<sup>76</sup> Furthermore, as I explained before, a gap also exists in modern international law in

72. *See id.* ¶ 10.

73. Statute of the International Court of Justice, June 26, 1945, 59 Stat. 1055, 33 U.N.T.S. 993, arts. 38(1)(a) –(d), available at <http://www.icj-cij.org/icjwww/basicdocuments/basictext/basicstatute.htm>.

74. Rodríguez-Rivera, *supra* note 22, at 38.

75. Dinah Shelton, *Protecting Human Rights in a Globalized World*, 25 B.C. INT'L & COMP. L. REV. 273 (2002) (discussing how the actions of non-state actors affect human rights).

76. *See id.*

regard to the protection of human life and dignity from threats associated with environmental degradation, especially when such threats are a consequence of actions or inactions taken by an individual's own national government.

Maurice Cranston has described a human right as "*a universal moral right, something which all men, everywhere, at all times, ought to have, something of which no one may be deprived without a grave affront to justice, something which is owing to every human being simply because he is human.*"<sup>77</sup> Given that human rights flow directly from the integrity and dignity of the human being, "[t]hey are thus rights that cannot be given or withdrawn at will by any domestic legal system."<sup>78</sup> In light of the universality of human rights, the traditionalists' emphasis on substantiating the existence of a human right by confirming state consent is misplaced.

The traditional or consensual sources doctrine curtails *a priori* the recognition of new human rights. In fact, when a new human right is recognized, state sovereignty on that matter must yield to international law. How can we ask the violator of human rights whether they recognize the very same rights they are violating? There is simply no logical way to support the continued defense of the traditional or consensual sources doctrine when evaluating the existence of new human rights. The source of human rights is not the will of the states as evidenced by their consent; the source of human rights must be the will of humanity.

How then do we demonstrate the will of humanity? The task is not as easy as merely looking for evidence of a state's consent. One must evaluate a myriad of factors that together evidence the will of humanity. For instance, there are many unmitigated sources for the recognition of the human right to environment in the modern international legal order, such as

[T]he thousands of international environmental soft law instruments; the many national constitutions and legislative acts; the dozens of international, regional and national court decisions; the hundreds of non-governmental international organizations; the thousands of local or "grass-roots level" community organizations, and, more importantly, the overwhelming and sweeping transformation in the [valuation] of environmental concerns in all levels of society.<sup>79</sup>

Moreover, we cannot ignore the actions taken by citizens, grass-roots movements, community groups and non-governmental organizations related to the Bizkaia Declaration, or related to any of the thousands of other environmental issues they face daily. Their actions are evidence of the will of humanity. We must not waste any more time searching for state consent in order to anoint a new human right. The *right to environment* either exists or it does not. State consent is inconsequential.

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77. MAURICE CRANSTON, *WHAT ARE HUMAN RIGHTS?* 36 (1962).

78. ROSALYN HIGGINS, *PROBLEMS AND PROCESS: INTERNATIONAL LAW AND HOW WE USE IT* 96 (1994).

79. Rodríguez-Rivera, *supra* note 22, at 45.

## VI. CONCLUSION

Once the human right to environment is recognized under international law – either under the traditional or modern sources doctrine – its application to the peaceful use of nuclear energy seems to be a natural and effective approach.

In a recent article, Professor Hari M. Osofsky proposes a new way of categorizing or characterizing environmental harm to humans.<sup>80</sup> He essentially examines three major components of environmental damage: geographic scope, severity and duration. First, “[t]he larger the scope of the environmental damage, the higher the likelihood of it having deleterious impacts on human beings.”<sup>81</sup> Second, “[t]he severity of the harm is central to the question of whether the human impact constitutes a human rights violation.”<sup>82</sup> Third, “[t]he longer an environmental incident lasts, the greater the likelihood that it will cause severe damage and harm people.”<sup>83</sup>

Under this model, it is clear that both radiation exposure and the risk of such exposure to humans would constitute a violation of the human right to environment. Regarding the risk of exposure, some may argue that said risk is low, and thus, acceptable. However, the catastrophic nature of the risk of exposure makes any probability of the risk unacceptable to humanity. What makes it unacceptable is precisely the unique characteristics of nuclear energy that can potentially bring great destruction and untold human suffering to humanity and the environment.<sup>84</sup> Thus, what we must look for is evidence of humanity’s intolerance to the risk associated with the peaceful use of nuclear energy. The immorality of disproportionately putting some individuals at catastrophic risk clearly shows signs of intolerance around the globe. Picture, record, write, in essence capture the human reaction to this issue, and you will have in your hands evidence of a violation of the human right to environment under modern international law.

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80. See Hari M. Osofsky, *Learning from Environmental Justice: A New Model for International Environmental Rights*, 24 STAN. ENVTL. L.J. 71, 90-94 (2005) (proposing how the geographic scope, severity and duration of environmental harm are factors that should be measured to determine how harm to the environment impacts human rights).

81. *Id.* at 91.

82. *Id.* at 92.

83. *Id.* at 93.

84. Legality of the Threat or Use of Nuclear Weapons, *supra* note 24, at 244.