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Blueprint for Survival: A New Paradigm for International Environmental Emergencies

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BLUEPRINT FOR SURVIVAL: A NEW PARADIGM FOR INTERNATIONAL ENVIRONMENTAL EMERGENCIES

Claire Wright*

INTRODUCTION

Experts predict that the world is going to experience an ever-increasing number of major environmental emergencies in which one or more pollutant(s) is/are released, given our societies' increasing use of pollutants in industry and commerce.¹ Furthermore, given many States' increasing populations and urbanization, such events are likely to harm an ever-increasing number of people and environments exposed to these pollutants.² Moreover, in our increasingly

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1. Linda Malone, *Security Council Authority in Environmental Emergencies*, 17 MICH. J. INT'L L. 515, 517 (1996) (discussing three independent studies predicting that environmental emergencies were "likely to increase in both frequency and magnitude . . . as industrialization and population increased") [hereinafter Malone, *Security Council Authority*].

2. *See id*; *see also* Interpol, STRATEGIC REPORT: ENVIRONMENT, PEACE AND SECURITY: A CONVERGENCE OF THREATS, 28 (UNEP ed., 2016) ("The world's population is more than 7 billion people and is expected to exceed 9 billion by 2050. With a constantly growing urbanization rate, the pressure put on land is tremendous. Land degradation results from excessive use . . . and land pollution . . . This degrades the ecosystem and fails to provide for our common needs" and "Air pollution is an economic, social, and environmental issue. As a serious health risk, it is responsible for approximately 7 million premature deaths per year and constitutes an economic drain.") [hereinafter STRATEGIC REPORT]; A.N.M. Munizzaman, *Climate Change: Threat to International Peace and Security*, GLOBAL POLICY FORUM (Apr. 11, 2011), <https://www.globalpolicy.org/component/content/article/190-issues/50546-climate-change-threat-to-international-peace-and-security.html> [http://perma.cc/Rf8B-Z42T] ("The number of natural disasters in the world may double during the next 10 to 15 years. Over the past ten years, 3,852 disasters killed more than 780,000 people, affected more than two billion others and cost a minimum of \$960 billion. . . . Between 35 and 77 million of the 165 million Bangladeshis are at risk of drinking contaminated water. According to the British medical journal "The Lancet," up to 77

interconnected world, such events are likely to expose an ever-increasing number of nationals and environments in other States to such pollutants.³ At present, the international community does not have a workable system that would permit the States that are threatened with widespread harm emanating from an environmental disaster in another State to protect their own nationals and environments.⁴ This article proposes the adoption of a new treaty that would provide such a workable system.

Throughout this article, a disaster that other States and the international community in general should be permitted to assist remediate is referred to as a “major international environmental emergency” or a “MIEE.” A State that is the site of such an emergency is referred to as a “locus State,” and any other State which is threatened with major environmental harm from such an emergency is referred to as a “target State.”

Section I of this article discusses four recent environmental disasters and their common features. Section II discusses the current international legal regime applicable to such disasters. Section III sets forth the basic parameters of a new treaty that the international community could adopt regarding the investigation and remediation of MIEEs. This article takes a cosmopolitan or human rights perspective, as opposed to a communitarian perspective.⁵ However, it should make

million people have been exposed to arsenic that can cause 2,000,000 to 2,700,000 deaths from cancer alone in Bangladesh.”).

3. See, e.g., Malone, *Security Council Authority*, *supra* note 1, at 517, 536 (“Unfortunately, . . . the threat of future Chernobyls and Bhopals is increasing rather than lessening.”); Michael Murphy, *Achieving Economic Security with Swords As Plowshares*, 39 VA. J. INT’L L. 1181, 1999, at n. 5 (1999) (“Whether overfishing of migratory stocks on the high seas threatens a nation’s economic viability or a nuclear or chemical accident threatens serious physical harm, states are more likely in the future to deal with environmental degradation as a security threat.”).

4. See, e.g., Linda Malone, *Green Helmets: Eco-Intervention in the Twenty-First Century*, 103 AM. SOC’Y INT’L L. PROC. 19, 38 (2009) [hereinafter Malone, *Green Helmets*].

5. “The root of communitarian thought is that value stems from the community; that the individual finds meaning in life by virtue of his or her membership of a political community.” CHRIS BROWN, *INTERNATIONAL RELATIONS THEORY* 55 (Colum. U. Press 1993). The communitarian view of international law shares many of the theoretical bases of the positivist theory of law generally. See, e.g., Carlos Santiago Nino, *Positivism and Communitarianism: Between Human Rights and Democracy*, 7:1 RATION JURIS 14 (2007) *passim*. In contrast, “[w]hat is crucial to a

sense to every State and person on the planet that the international community needs to adopt a blueprint for how to survive future MIEEs.

I. MAJOR INTERNATIONAL ENVIRONMENTAL EMERGENCIES

A. Recent Accidents

In this section, four recent major international environmental emergencies are discussed. To repeat, the country where such an accident occurred is referred to as the “locus State” and other countries that the accident harmed or threatened to harm are referred to as the “target States.”

1. MAL Aluminum Plant Accident in Hungary

The first such accident occurred in Hungary. Specifically, on October 4, 2010, a waste storage dam at the Ajkai Timfoldgyar Zrt (MAL) aluminum plant in Ajka, Hungary, burst and approximately 700,000 cubic meters⁶ (or 24,720,266.7 cubic feet⁷) of toxic, red aluminum sludge⁸ inundated the towns of Kolontar, Devecser, and

cosmopolitan attitude is the refusal to regard existing political structures as the source of ultimate value. . . . [C]osmopolitanism is a universalist principle [.]” *Id.* at 24. The human rights or cosmopolitan view of international law shares many of the theoretical bases of the natural law theory of law generally. *See, e.g.*, ROBERT FINE, *COSMOPOLITANISM* 22-28, 56-58 (Routledge 2008).

6. *Hungary battles to stem torrent of toxic sludge*, BBC (Oct. 5, 2010), <http://www.bbc.com/news/world-europe-11475361> [<http://perma.cc/2FDN-848A>] [hereinafter BBC].

7. Unit Conversion, GOOGLE, <https://www.google.com/search?q=convert+one+meter+to+feet&oq=convert+one+mete&aqs=chrome.0.0j69i57j0l4.7679j0j4&sourceid=chrome&ie=UTF-8> (select “Volume” from menu; then search “700,000” with “cubic meter” selected as beginning conversion unit and “cubic foot” as end conversion unit).

8. The sludge was “a mix of solid impurities, heavy metals such as cadmium, cobalt and lead, and the processing chemicals [used to extract aluminum oxide from bauxite, the raw material from which aluminum is processed].” Mark Tran, *Hungary Toxic Sludge Spill an ‘Ecological Catastrophe’ Says Government*, THE GUARDIAN (Oct. 5, 2010), <https://www.theguardian.com/world/2010/oct/05/hungary-toxic-sludge-spill> [<http://perma.cc/5LSJ-YS7R>].

Somlovasarhely, as well as nearby lands and rivers.⁹ In places, the sludge reached 2.5 meters high,¹⁰ and in its path it left behind an eerie red stain on buildings, trees, and monuments.¹¹ In the immediate aftermath of the disaster, the sludge killed ten people and injured approximately 120 people.¹² The sludge was highly alkaline and caustic to human skin, and inhalation of its dust can cause lung cancer.¹³ It also decimated plants, wildlife, crops, livestock, and fish throughout the area.¹⁴ Experts concluded that the accident had occurred as the result of the designation of the red sludge as non-toxic by MAL and the EU, safety violations by MAL operators, and Hungarian and EU regulators' lax enforcement of safety laws.¹⁵

According to Hungary's Environmental Affairs State Secretary Zoltan Illes, the toxic red sludge event was an "ecological catastrophe," and the Government of Hungary declared a state of emergency in the counties of Veszprem, Győr-Moson-Sopron and Vas.¹⁶ It is estimated that at least 7,000 people were directly affected by the spill,¹⁷ and clean-up costs are estimated to be between \$100 million and \$200 million.¹⁸

9. *Id.*; *Hungarian Toxic Sludge Reaches Danube River*, TELEGRAPH (Oct. 7, 2010), <http://www.telegraph.co.uk/news/worldnews/europe/hungary/8047873/Hungarian-toxic-sludge-reaches-Danube-river.html> [<http://perma.cc/GB3V-7BWE>] [hereinafter TELEGRAPH].

10. See Georg Rast, *The Red Sludge Tragedy*, 3-4 DANUBE WATCH 6 (2010), https://www.icpdr.org/main/sites/default/files/nodes/documents/dw2010_3.pdf.

11. See Jennifer Hattam, *Haunting Photos of the Hungarian Town a Toxic Sludge Spill Painted Red*, TREEHUGGER (July 14, 2012), <http://www.treehugger.com/culture/haunting-photos-hungarian-town-toxic-sludge-spill-painted-red-2010.html> [<http://perma.cc/3HQX-KHK9>].

12. Rast, *supra* note 10; BBC, *supra* note 6.

13. Tran, *supra* note 8.

14. Rast, *supra* note 10; Elizabeth Rosenthal, *Hungarian Towns Begin Cleanup of Nightmarish Red Sludge*, N.Y. TIMES (Oct. 6, 2010), http://www.nytimes.com/2010/10/07/world/europe/07hungary.html?_r=0 [<http://perma.cc/LV9N-U5GX>]; Industrial Spill Accidents: Description, actionguide.info, <http://actionguide.info/t/12> (last visited July 8, 2016) [hereinafter *Action Guide*].

15. MIKLÓS HARGITAI & BENEDEK JÁVOR, THE KOLONTÁR REPORT: CAUSES AND LESSONS FROM THE RED MUD DISASTER, 16, 42-45 (Budapest U. of Tech. & Econ. ed., 2011).

16. Tran, *supra* note 8.

17. BBC, *supra* note 6.

18. Rast, *supra* note 10.

Furthermore, this event threatened to kill or severely injure humans and irreparably harm the ecology in neighboring countries, because the sludge flowed into local rivers that empty into the Danube River,¹⁹ which travels through Croatia, Serbia, Bulgaria, Romania, Ukraine, and Moldova.²⁰ According to the United Nations Economic Commission for Europe, “[t]his incident showed that accidental water pollution can have far-reaching transboundary effects even if it happens at a location far from any international border.”²¹

Understandably, this emergency caused considerable concern throughout Europe, especially given that the Government of Hungary early in the crisis failed to request or accept assistance from the international community.²² Hungary even closed the airspace over the site to all flights, except for company and official flights, so that outsiders could not monitor the situation.²³ Hungary could have requested immediate help from any United Nations member or the Joint Environment Unit (JEU) of the United Nations Environment Programme (UNEP)/Office for the Coordination of Humanitarian Assistance (OCHA).²⁴ In addition, it could have requested immediate assistance from any of the other parties to the United Nations Economic Commission for Europe (UNECE) Convention on the Transboundary Effects of Industrial Accidents.²⁵ Instead, Hungary waited four days to request any type of assistance, and then it only

19. See *Hungary’s Toxic Sludge Reaches Danube River*, NOVINITE.COM (Oct. 7, 2010), <http://www.novinite.com/articles/120876/Hungary’s+Toxic+Sludge+Reaches+Danube+River> [<http://perma.cc/K9Kg-HXWU>] [hereinafter NOVINITE.COM].

20. See TELEGRAPH, *supra* note 9; see also Rosenthal, *supra* note 14; Rast, *supra* note 10.

21. *Action Guide*, *supra* note 14 (citing Industrial Accidents Convention, *About the Convention*, UNECE (2014), <http://www.unece.org/env/teia/about.html>).

22. See Rosenthal, *supra* note 14.

23. See *Hungary Asks EU for Help with Toxic Decontamination*, EURACTIV (Oct. 8, 2010), <http://www.euractiv.com/section/central-europe/news/hungary-asks-eu-for-help-with-toxic-decontamination/> [<http://perma.cc/F382-RF5V>] [hereinafter EURACTIV].

24. See text accompanying *infra* note 517.

25. See UNECE Convention on the Transboundary Effects of Industrial Accidents, 21998A1203(01) (Helsinki, Mar. 17, 1992), art. 12, http://www.unece.org/fileadmin/DAM/env/documents/2013/TEIA/1321013_ENG_Web_New_ENG.pdf.

requested that its fellow EU members provide between three and five experts in the removal of toxic waste.²⁶

Ultimately, the Hungarian national disaster management directorate was able to build several dykes and pour various chemicals into the Marcal River, thereby significantly reducing the toxicity of the sludge before it reached the Danube.²⁷ However, this was a very alarming situation for several European countries, especially because they were powerless to ascertain the facts on the ground.²⁸

2. Fukushima Nuclear Disaster

On March 10, 2011, the northeastern coast of Japan was struck by a magnitude 9 earthquake and then a series of tsunamis ranging up to 128 feet.²⁹ Within just a few hours, 15,894 people had drowned and another 2,500 had disappeared.³⁰ In addition, the earthquake and tsunamis caused approximately \$300 billion in damage.³¹ Furthermore, the earthquake caused the electrical power at the Fukushima Daiichi Nuclear Power Plant outside of Tokyo to fail and then the tsunamis caused the backup generators at the plant to fail so that the plant lost its cooling ability.³² As a result, three of the plant's six reactors (Reactors 1-3) suffered a meltdown and released high levels of radiation into the surrounding air, land and water.³³ Various

26. EURACTIV, *supra* note 23.

27. Rast, *supra* note 10; *see also* NOVINITE.COM, *supra* note 19; TELEGRAPH, *supra* note 9.

28. *See* EURACTIV, *supra* note 23.

29. Becky Oskin, *Japan Earthquake & Tsunami of 2011: Facts and Information*, LIVESCIENCE (Sept. 13, 2017), <http://www.livescience.com/39110-japan-2011-earthquake-tsunami-facts.html> [<http://perma.cc/7KTS-63LW>].

30. *Id.*

31. *Id.*

32. *Id.*

33. *Id.* Reactors 4-6 had not been operating at the time of the earthquake and tsunamis. Fukushima Accident, WORLD NUCLEAR ASSOC. (Oct. 2017), <http://www.world-nuclear.org/information-library/safety-and-security/safety-of-plants/fukushima-accident.aspx> [<http://perma.cc/6K8C-8575>]. A meltdown is considered a level 7 nuclear accident, which is the most serious type of nuclear accident, according to the International Nuclear and Radiological Event Scale (INES) scale of such accidents. *Fukushima, Chernobyl and the Nuclear Event Scale*, NUCLEAR ENERGY INST. (2011), <http://www.nei.org/News-Media/News/News-Archives/fukushima-chernobyl-and-the-nuclear-event-scale> [<http://perma.cc/S5YF->

water sources, land areas, and foods grown in Japan were poisoned with radiation.³⁴

Shortly after this disaster, the Government of Japan evacuated approximately 160,000 people from the area within twenty kilometers from the Fukushima plant.³⁵ Approximately 600 elderly and chronically ill people died during this evacuation due to exposure and fatigue.³⁶ In addition, although the World Health Organization (WHO) and the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) have reported that adverse health effects in Japan due to radiation exposure from the Fukushima accident should be negligible,³⁷ some doctors and health care workers maintain that the

5C3W]. A level 7 accident is defined as a “[m]ajor release of radioactive material with widespread health and environmental effects, requiring implementation of planned and extended countermeasures.” INT’L ATOMIC ENERGY AGENCY, INES 4, <https://www.iaea.org/sites/default/files/ines.pdf>.

34. Mari Saito, *Japan Anti-Nuclear Protesters Rally After PM Call to Close Plant*, REUTERS (May 7, 2011), <https://www.reuters.com/article/us-japan-nuclear-idUSTRE74610J20110507> [<http://perma.cc/25YT-282T>]; Motoko Rich, *Struggling With Japan’s Nuclear Waste, Six Years After Disaster*, N.Y. TIMES (Mar. 11, 2017), <https://www.nytimes.com/2017/03/11/world/asia/struggling-with-japans-nuclear-waste-six-years-after-disaster.html?mcubz=1> [<http://perma.cc/UCC8-QM2N>]; Ken Doyle, *Soils Retain, Contain Radioactivity in Fukushima*, AM. SOC’Y OF AGRONOMY (Mar. 24, 2015), <https://www.agronomy.org/science-news/soils-retain-and-contain-radioactivity-fukushima> [<http://perma.cc/7QB3-UH6M>].

35. Jason Gale, *Fukushima Radiation May Cause 1,300 Cancer Deaths, Study Finds*, BLOOMBERG (July 17, 2002), <http://www.bloomberg.com/news/articles/2012-07-17/fukushima-radiation-may-cause-1-300-cancer-deaths-study-finds> [<http://perma.cc/87W3-8MTL>].

36. *Id.*

37. See WORLD HEALTH ORG., HEALTH RISK ASSESSMENT FROM THE NUCLEAR ACCIDENT AFTER THE 2011 GREAT EAST JAPAN EARTHQUAKE AND TSUNAMI BASED ON A PRELIMINARY DOSE ESTIMATION 13, 92-93 (reporting that, for the general Japanese population, “[t]he present results suggest that the increases in the incidence of human disease attributable to the additional radiation exposure from the Fukushima Daiichi NPP accident are likely to remain below detectable levels.” For emergency workers at the Fukushima plant, approximately one-third of the workers faced a 20% higher risk of thyroid cancer, approximately 1% of the workers faced a 28% higher risk of leukemia and thyroid cancer, and a few of the workers who received high doses of radiation to the thyroid faced a “notable risk of thyroid cancer”). See also U.N. SCIENTIFIC COMM. ON THE EFFECTS OF ATOMIC RADIATION, SOURCES, EFFECTS AND RISKS OF IONIZING RADIATION, UNSCEAR 2013 REPORT, at 10, U.N. Doc. A/68/46 and Corr. 1, U.N. Sales No. E.14.IX.I (2014), http://www.unscear.org/docs/reports/2013/13-85418_Report_2013_Annex_A.pdf

Japanese population has experienced and can expect to experience a number of health problems attributable to radiation exposure from the accident.³⁸ For example, in the years following the accident, thousands of Japanese residents reportedly suffered nosebleeds, nausea, and fatigue,³⁹ all of which are classic symptoms of radiation poisoning.⁴⁰ Furthermore, in tests conducted between 2011 and 2014 in Fukushima Prefecture, the incidence of thyroid cancer in children was approximately twenty four times the norm.⁴¹ Estimates of increased

(stating that “[n]o increased incidence of radiation-related health effects are expected among exposed members of the public or their descendants”) [hereinafter UNSCEAR REPORT].

38. See, e.g., Susie Grieves, *Tokyo Contaminated & Not Fit for Habitation, Doctor Says*, PERMACULTURE RESEARCH INST. (Sept. 25, 2014), <http://permaculturenews.org/2014/09/25/tokyo-contaminated-fit-habitation-doctor-says/> [<http://perma.cc/A6BX-A8DJ>] (discussing reports from Dr. Shigeru Mita, who has “found increased nosebleeds, hair loss, lack of energy, subcutaneous bleeding, visible urinary haemorrhage, skin inflammation, and coughs . . . an increase in infectious diseases such as influenza, hand, foot and mouth diseases and shingles . . . diseases that had been rare before[,] for example, polymyalgia rheumatic” and lower white blood cell counts in children); Joseph Mangano & Janette D. Sherman, *The Fukushima Health Crisis*, COUNTER PUNCH (Aug. 1, 2014), <http://www.counterpunch.org/2014/08/01/the-fukushima-health-crisis/> [<http://perma.cc/6RW2-DM7H>] (noting that a Fukushima Medical University study had found that 46% of local children had pre-cancerous nodules or cysts and 130 had thyroid cancer compared to the 3 expected, although the University asserted in its study that these high figures were not necessarily attributable solely to the Fukushima disaster).

39. Mark LaRosa, *Thousands of Japanese Reporting Nose Bleeds From Radiation*, ORGANIC SLANT (Oct. 12, 2013), <https://organicslant.com/thousands-of-japanese-reporting-nose-bleeds-from-radiation/> [<http://perma.cc/LMA2-WCP4>]; Arnie Gundersen, *Nuclear Engineer: Japan’s PM “Lying to the Japanese People” About Safety of Fukushima*, THE REAL NEWS (Oct. 1, 2013), https://www.youtube.com/watch?feature=player_detailpage&v=1LVOPSGR1Xk#t=311.

40. MEDLINE PLUS, *Radiation Sickness*, <https://medlineplus.gov/ency/article/000026.htm> (last visited July 16, 2016).

41. See, e.g., Eiichiro Ochiai, *The Manga “Oishinbo” Controversy: Radiation and Nose Bleeding in the Wake of 3.11*, 11 THE ASIA-PACIFIC J., 1, 4-5 (June 23, 2014), <http://apjpf.org/-Eiichiro-Ochiai/4138/article.pdf> (discussing data published (in Japanese) on the official site of Fukushima Prefecture at <http://fukushima-minamori.jp/>). However, the Japanese Government maintains that this higher incidence of thyroid cancers in children is unrelated to the Fukushima accident. *Id.*; see also UNSCEAR REPORT, *supra* note 37, at 11 (reporting that the apparent

cancer cases in Japan attributable to the Fukushima disaster range from 9,600 to 66,000, depending on radiation dose assumptions.⁴² Without question, whatever the exact number of casualties suffered as a result of the combined earthquake-tsunamis-nuclear disaster on March 10, 2011, it was an unimaginable tragedy for Japan. Its people and economy will be recovering from this tragedy for many years to come.⁴³

Unfortunately, the Fukushima emergency also threatened to impose (and continues to threaten to impose) significant quantities of radiation on other nations, especially Japan's neighbors.⁴⁴ Under the International Atomic Energy Agency (IAEA) Convention on Early Notification of a Nuclear Accident (the Early Notification Convention),⁴⁵ Japan was required to immediately notify the IAEA and all of the parties to this Convention⁴⁶ of the accident⁴⁷ and provide specific information regarding the accident.⁴⁸ For example, it was required to indicate the place, time, and nature of the accident, the "probable physical and chemical form and the quantity, composition and effective height of the radioactive release,"⁴⁹ and "the assumed or established cause and the foreseeable development of the nuclear accident relevant to the transboundary release of the radioactive

increased incidence of thyroid nodules, cysts, and cancers found in children in Fukushima Prefecture was due simply to the "modern high-efficiency ultrasonography" used during the tests).

42. ANGELIKA CLAUSSEN & ALEX ROSEN, *5 YEARS LIVING WITH FUKUSHIMA 2* (IPPNW Germany & Physicians for Social Responsibility ed., 2016).

43. *See, e.g.*, Reuters Staff, *Japan's Kan Says Nuclear Clean-Up Could Take Decades*, REUTERS (July 9, 2011), <http://www.reuters.com/article/us-japan-nuclear-hosono-idUSTRE7680Z520110709> [<http://perma.cc/H3KC-7DUP>] (reporting on Japanese Prime Minister Naoto Kan's declaration that it will be decades before the Fukushima plant is cleaned up and decommissioned).

44. *See* text accompanying *infra* notes 60 – 68, 83.

45. Convention on Early Notification of a Nuclear Accident, UNTS 133/[1987]ATS 14/25 ILM 1369 (1986) (signed in Vienna Sept. 26, 2986) [hereinafter Early Notification Convention].

46. *See* INT'L ATOMIC ENERGY AGENCY, CONVENTION ON EARLY NOTIFICATION OF NUCLEAR ACCIDENT, Mar. 3, 2017, https://www.iaea.org/Publications/Documents/Conventions/cenna_status.pdf (listing parties to the Convention).

47. Early Notification Convention, *supra* note 45, at art. 2(a).

48. Early Notification Convention, *supra* note 45, at art. 5.

49. Early Notification Convention, *supra* note 45, at art. 5(1)(d).

materials[.]”⁵⁰ Japan did notify the IAEA and each of the parties to the Early Notification Convention that a nuclear accident had occurred following the earthquake and tsunamis on March 10, 2011.⁵¹ Unfortunately, much of the information that Japan and the Tokyo Electric Power Company (TEPCO), the main operator of the Fukushima plant, provided in this notice and during the five and a half years since the accident has been inaccurate.⁵²

In general, the Government of Japan relied on TEPCO to provide information regarding the accident. For two and a half months following the accident, TEPCO personnel reiterated that three of the reactors at the Fukushima plant had simply suffered “core damage,” although they were aware since the date of the accident that each of these reactors had in fact suffered a meltdown.⁵³ A meltdown refers to a situation where the energy core of a reactor has melted into the bottom of the reactor, where it could then melt through the reactor basement floor, then melt through the containment structure, and ultimately leak high levels of radiation into the ground and ground water.⁵⁴ A scenario where the nuclear fuel has in fact breached the containment structure and contaminated the ground water is often referred to as a “worst case” nuclear accident.⁵⁵

50. Early Notification Convention, *supra* note 45, at art. 5(1)(c).

51. IAEA, *Fukushima Monitoring Database*, <https://iec.iaea.org/fmd/> (last visited July 16, 2016).

52. See text accompanying *infra* notes 53 - 96.

53. Associated Press, *Fukushima Meltdown Apology: “It was a Cover-Up,”* CBS NEWS (June 21, 2016), <http://www.cbsnews.com/news/fukushima-tepco-power-japan-nuclear-meltdown-apologizes-cover-up/> [<http://perma.cc/9NFJ-RUFW>].

54. Steve Mirsky, *Nuclear Experts Explain Worst Case Scenario at Fukushima Power Plant*, SCIENTIFIC AM. (Mar. 12, 2011), <http://www.scientificamerican.com/article/fukushima-core/> [<http://perma.cc/8TJW-H6JY>]; Jenny Marder, *Mechanics of a Nuclear Meltdown Explained*, PBS NEW HOUR (Mar. 15, 2011), <http://www.pbs.org/newshour/rundown/mechanics-of-a-meltdown-explained/> [<http://perma.cc/9F4P-HVA6>].

55. See, e.g., Mirsky, *supra* note 54; Mark Sircus, *Fukushima – China Syndrome – The Worst Case Scenario is Happening*, HIGGINS NEWS NETWORK (May 29, 2015), <http://alexanderhiggins.com/fukushima-china-syndrome-the-worst-case-scenario-is-happening/> [<http://perma.cc/3H89-WRGV>]. Such an event is also sometimes described as “the China Syndrome.” *Id.*; see also OXFORD DICTIONARIES, *China Syndrome*, https://en.oxforddictionaries.com/definition/china_syndrome (last visited Aug. 19, 2017) (defining “China Syndrome” as “[a] hypothetical sequence of events following the meltdown of a nuclear reactor, in which the core melts through its

Then, in late May of 2011, TEPCO officials finally admitted that, in fact, three of its six reactors had suffered a meltdown and probably had also breached their inner containment vessels. In addition, they admitted that their earlier delay in making this announcement constituted a cover-up.⁵⁶ To this day, the radiation levels at Reactors 1-3 are so high that TEPCO personnel cannot locate the precise location of the core fuel,⁵⁷ but they maintain that the core fuel at each

containment structure and deep into the earth[]”). This term was first used by U.S. nuclear physicist Ralph Lapp in 1971 to refer to a situation where a coolant accident in a nuclear reactor in the U.S. would cause the core fuel at the reactor to burn through the containment structures and release radioactive material deep into the earth’s core, traveling all the way to China, on the opposite side of the earth. See Ralph Lapp, *Thoughts on Nuclear Plumbing*, N.Y. TIMES (Dec. 12, 1971), <http://www.nytimes.com/1971/12/12/archives/thoughts-on-nuclear-plumbing.html> [<http://perma.cc/4AS4-VBGD>]. See also Rob Mann, *Three Reactors in Japan are Apparently Imploding*, TWILIGHT ZONEZ (June 8, 2011), <https://twilightzonez.wordpress.com/category/nuclear-melt-through/> (last retrieved July 16, 2016). This term was then later popularized in the 1979 movie of the same name which concerns such a hypothetical nuclear power accident. *Id.*; see also THE CHINA SYNDROME, (Columbia Pictures 1979). Originally, the name was based on the mistaken belief on the part of many Americans that China is on “the opposite side of the world” from the United States.

56. Justin McCurry, *Fukushima Nuclear Power Plant May Have Suffered ‘Melt-Through,’ Japan Admits*, THE GUARDIAN (June 8, 2011), <https://www.theguardian.com/world/2011/jun/08/fukushima-nuclear-plant-melt-through> [<http://perma.cc/7GA8-FL5Y>] [hereinafter McCurry, *Fukushima Nuclear Power*]; Associated Press, *Japan Utility: Delay in Declaring ‘Meltdown’ was a Cover-Up*, L.A. TIMES (June 21, 2016), <http://www.latimes.com/world/la-fg-japan-nuclear-meltdown-20160621-snap-story.html> [<http://perma.cc/JDB4-M47K>]. A study conducted by three lawyers and published in June 2016 found that early in the crisis TEPCO’s President, Masataka Shimizu, had instructed TEPCO officials to be careful about admitting a meltdown had occurred and to check with the Prime Minister’s Office before releasing information to the public. See Kazuaki Nagata, *Tepco Chief Likely Banned Use of ‘Meltdown’ Under Government Pressure: Report*, THE JAPAN TIMES (June 16, 2016), http://www.japantimes.co.jp/news/2016/06/16/national/tepcos-chief-likely-banned-use-meltdown-government-pressure-report/#.V4wUt_ZTG1s [<http://perma.cc/63YE-CJHU>]. This same study concluded that it was highly likely that Shimizu had been pressured by someone in the Office of Prime Minister Naoto Kan not to use the term “meltdown” when describing the accident at Fukushima, but the authors of the study couldn’t pinpoint a specific individual who had so pressured Shimizu. *Id.*

57. Greg White, *Expert Warns That Fukushima Fuel Cores Have “Melted Into the Groundwater,”* FUKUSHIMA WATCH (July 7, 2016),

of these reactors probably has not yet breached the outer containment structure and reached the ground water.⁵⁸ Some experts, however, believe that the core fuel from one or more of the three reactors has already reached the ground water.⁵⁹

Similarly, for two and a half years following the accident, TEPCO personnel denied that radiation from the Fukushima plant was leaking into the Pacific Ocean.⁶⁰ It was not until July 2013 that the head of Japan's Nuclear Authority admitted that radioactive water has in fact been leaking from the Fukushima plant into the Pacific Ocean every day since the March 11, 2010 disaster.⁶¹ The best estimate today is that 300,000 tons of radioactive water from the Fukushima plant are entering the Pacific Ocean from the Fukushima plant every day.⁶² Not surprisingly, fish in the waters near Fukushima have been found to contain high levels of cesium-134, a radioactive isotope.⁶³

<http://www.fukushimawatch.com/2016-05-20-fukushima-fuel-cores-have-melted-into-the-groundwater-warns-expert.html> [<http://perma.cc/9NC3-YB4A>]; Justin McCurry, *Fukushima Robot Stranded After Stalling Inside the Reactor*, THE GUARDIAN (Apr. 13, 2015), <https://www.theguardian.com/environment/2015/apr/13/fukushima-robot-stalls-reactor-abandoned> [<http://perma.cc/2Th2-Z3MF>].

58. McCurry, *Fukushima Nuclear Power*, *supra* note 56.

59. White, *supra* note 57.

60. Hiroko Tabuchi, *Japanese Nuclear Plant May Have Been Leaking for Two Years*, N.Y. TIMES (July 10, 2013), http://www.nytimes.com/2013/07/11/world/asia/japanese-nuclear-plant-may-have-been-leaking-for-two-years.html?_r=1& [<https://perma.cc/DW7V-DZ9F>]; Harvey Wasserman, *Fukushima Fallout Continues to Wreak Havoc*, ECO WATCH (July 30, 2013), <http://ecowatch.com/2013/07/30/fukushima-continues-to-wreak-havoc/> [<https://perma.cc/Z8DT-3WMT>]; Mark Wallacy, *Fukushima Operators Admit Radioactive Water is Leaking into the Pacific*, ABC NEWS (July 22, 2013), <http://www.abc.net.au/news/2013-07-23/fukushima-operators-admit-radioactive-water-leaked-into-pacific/48366709> [<https://perma.cc/7VLG-YHEK>]; Justin McCurry, *Fukushima Operator May have to Dump Contaminated Water into Pacific*, THE GUARDIAN (Mar. 10, 2014), <https://www.theguardian.com/environment/2014/mar/10/fukushima-operator-dump-contaminated-water-pacific> [<https://perma.cc/5PST-GXW3>] [hereinafter McCurry, *Contaminated Water into Pacific*].

61. Tabuchi, *supra* note 60.

62. See, e.g., Gregg Levine, *Amid Rampant Waste, Fukushima's Frozen Wall Up in Smoke*, ALJAZEERA AMERICA (Mar. 24, 2015), <http://america.aljazeera.com/blogs/scrutineer/2015/3/24/rampant-waste-fukushima-frozen-wall-up-in-smoke.html> [<https://perma.cc/2REU-U7AK>].

63. David Susuki, *Despite Fukushima, Scientists Say Eating West Coast Fish is Safe*, THE GA. STRAIGHT (Oct. 8, 2013), <http://www.straight.com/news/499616/>

Additionally, forty-two fish species off the shores of Japan are now considered to be unsafe for human consumption.⁶⁴ Korea has gone so far as to ban imports of all fish caught in Japanese waters.⁶⁵ In addition, in 2014 and 2015, radiation from Fukushima was found in seawater collected off the shores of Canada and California.⁶⁶ Indeed, every single bluefin tuna tested off the coast of California was found to contain traces of radiation from Fukushima,⁶⁷ although experts maintain that, to date, these traces are too small to endanger human health.⁶⁸

Since March 10, 2011, the Fukushima plant has posed numerous other serious threats to the environment. For example, on March 15, 2011, there was a hydrogen explosion at Reactor 4, leaving the reactor in very fragile shape and susceptible to another meltdown, further explosions, or radiation releases in a subsequent earthquake, tsunami, aftershock, or industrial accident.⁶⁹ In addition, TEPCO generates

david-suzuki-despite-fukushima-scientists-say-eating-west-coast-fish-safe [https://perma.cc/9BW7-4FAZ].

64. *Id.*

65. Choi Sung-jin, *Korea, Japan Start Legal Battle over Fish Imports*, THE KOREA TIMES (Feb. 10, 2016), http://www.koreatimes.co.kr/www/news/biz/2016/03/123_197607.html [https://perma.cc/8ADE-RHTP]. It should be noted that Japan has filed a case against Korea in the World Trade Organization, challenging Korea's import ban. *Id.*

66. Becky Oksin, *Japan Earthquake & Tsunami of 2011: Facts and Information*, LIVESCIENCE (May 7, 2015), <http://www.livescience.com/39110-japan-2011-earthquake-tsunami-facts.html> [https://perma.cc/Q9PV-5499].

67. David Perlman, *Japan's Radiation Found in California Bluefin Tuna*, SF GATE (May 29, 2012), <http://www.sfgate.com/science/article/Japan-s-radiation-found-in-California-bluefin-tuna-3591176.php> [https://perma.cc/JC8X-BLGT]; WashingtonsBlog, "Absolutely Every One" – 15 Out of 15 – Bluefin Tuna Tested in California Waters Contaminated with Fukushima Radiation, WASHINGTON'S BLOG (May 2012), <http://www.washingtonsblog.com/2012/05/absolutely-every-one-of-the-15-bluefin-tuna-tested-in-california-waters-contaminated-with-fukushima-radiation.html> [https://perma.cc/ZTQ6-WDZN].

68. Suzuki, *supra* note 63; Steve Evans, *Radioactive Fukushima Tuna? Scientists Say Not to Worry*, SAFE BEE (Aug. 28, 2015), <http://www.safebee.com/food/radioactive-fukushima-tuna-scientists-say-not-to-worry> [https://perma.cc/PCB8-57X9].

69. WORLD NUCLEAR ASSOCIATION, Fukushima Accident, 2016, <http://www.world-nuclear.org/information-library/safety-and-security/safety-of-plants/fukushima-accident.aspx> (last visited July 18, 2016); *Environmental Scientist*

approximately 400 tons of radioactive water each day,⁷⁰ and it has not discovered a way to remove the radiation from this water.⁷¹ Accordingly, it is storing this water in thousands of underground and above-ground storage containers,⁷² but it is running out of space to build such containers.⁷³ Furthermore, some of these containers have sprung leaks.⁷⁴ Following several such leaks, in a stunning reversal of Japan's policy at that time, Japan's Prime Minister in October 2013

Predicts 95% Chance that Another Earthquake will Hit Fukushima, Causing Total Extinction of Pacific and West Coast, FUKUSHIMA WATCH (2015), <http://www.fukushimawatch.com/fukushimawatch/environment.html> [<https://perma.cc/4FED-5QMG>].

70. D. McN., *Treading Water: Fukushima Three Years On*, THE ECONOMIST (Mar. 12, 2014), <http://www.economist.com/blogs/banyan/2014/03/fukushima-three-years> [<https://perma.cc/MW5Q-3X4W>]; Kyodo, *Tepco Says All Radioactive Water in Fukushima No. 1 Tanks Filtered*, THE JAPAN TIMES (May 27, 2015), <http://www.japantimes.co.jp/news/2015/05/27/national/tepcosays-radioactive-water-fukushima-1-tanks-filtered/#.V41cofZTG1s> [<https://perma.cc/4NR2-YNCR>].

71. For example, TEPCO enlisted the assistance of the French company Areva S.A. to help it remove cesium from this water, but this effort failed. Nuclear Street News Team, *Audit Reflects Failed Efforts At Fukushima Daiichi To Contain Contaminated Water*, NUCLEAR STREET (Mar. 25, 2015), https://nuclearstreet.com/nuclear_power_industry_news/b/nuclear_power_news/archive/2015/03/25/audit-reflects-failed-efforts-at-fukushima-daiichi-to-contain-contaminated-water-032401#.V41XpvZTG1s [<https://perma.cc/NVL2-37VD>]; Emma Reynolds, *Fukushima Disaster Followed by Four-Year Litany of Failures Costing Hundreds of Millions*, NEWS.COM.AU (Mar. 26, 2016), <http://www.news.com.au/world/asia/fukushima-disaster-followed-by-four-year-litany-of-failures-costing-hundreds-of-millions/news-story/5114ae41680bcc465002bacbcb3b3f93> [<https://perma.cc/P52T-NLY3>].

72. Mae-Wan Ho, *Fukushima Crisis Goes Global*, SCIENCE IN SOCIETY, Spring 2014, at 6; McCurry, *Contaminated Water into Pacific*, *supra* note 60.

73. Dunrenard, *More Than 1,100 Water Storage Tanks at Fukushima Plant . . . and Counting*, NUCLEAR-NEWS (Feb. 13, 2016), <https://nuclear-news.net/2016/02/13/more-than-1100-water-storage-tanks-at-fukushima-plant-and-counting/> [<https://perma.cc/BS2R-VHET>]; Emerson Urry, *Radioactive Water Pileup Problem Still Festering at Fukushima: 1106 Tanks and Counting*, ENVIRONNEWS (Feb. 21, 2016) <http://environews.tv/world-news/radioactive-water-storage-crisis-mounts-at-fukushima-1100-massive-tanks-and-counting/> [<https://perma.cc/4SH3-HDFN>].

74. Ho, *supra* note 72; Yoko Kubota & Yuka Obayashi, *Wrecked Fukushima Storage Tank Leaking Highly Radioactive Water*, REUTERS (Aug. 20, 2013), <https://www.reuters.com/article/japan-fukushima-leak/update-3-wrecked-fukushima-storage-tank-leaking-highly-radioactive-water-idUSL4N0GL16I20130820> [<https://perma.cc/9X4H-6SEV>].

issued a plea to the international community to assist TEPCO in stopping such leaks.⁷⁵

To date, probably the most serious problem at Fukushima apart from the simultaneous meltdown at three of its reactors, was that, following the March 10, 2011 earthquake and tsunamis and a March 12 explosion at Reactor 4, 1,331 spent fuel rods, together with between 202 and 204 full fuel rods, were perched precariously in a cooling pool 100 feet in the air at Reactor 4. Given the fragile condition of this cooling pool and Reactor 4 in general, the pool could have collapsed, especially during a subsequent earthquake, aftershock, explosion, or tsunami.⁷⁶ Furthermore, the cooling pool simply could have malfunctioned, and then the fuel rods contained therein would have been exposed to the air and likely caught fire.⁷⁷ Therefore, it was imperative that the fuel rods be moved to a more secure location.⁷⁸ In late 2013, TEPCO announced that it was going to commence this process of moving the fuel rods.⁷⁹ At the time, confidence in TEPCO's abilities was so low and fear of a disastrous accident during the operation so high that several nuclear experts signed a letter to U.N. Secretary-General Ban Ki-moon, requesting that the United Nations appoint a group of nuclear experts to perform the extraction operation instead.⁸⁰ Ultimately, TEPCO successfully transferred all of the fuel rods to a more secure location at the Fukushima plant by the end of 2014,

75. See, e.g., Alison Winfield Burns, *Sockeye Salmon Sushi: Japanese Prime Minister Issues International Plea for Help Containing Radiation Leaks*, HUFFINGTON POST THE BLOG (Oct. 7, 2013), http://www.huffingtonpost.com/entry/sockeye-salmon-sushi-japa_b_4054103 [https://perma.cc/ZBM7-JB2A].

76. Andy Johnson, *Fukushima Reactor 4 Poses Massive Global Risk*, CTV NEWS (May 19, 2012), <http://www.ctvnews.ca/fukushima-reactor-4-poses-massive-global-risk-1.829254> [https://perma.cc/4QTE-DHCX].

77. *Id.*

78. PAUL C. GAILEY, ESTIMATING THE POTENTIAL IMPACT OF FAILURE OF THE FUKUSHIMA DAIICHI UNIT 4 SPENT FUEL POOL, (HOLOPHI ed., Apr. 2012), http://bellona.org/assets/sites/3/2015/06/fil_Holophi-Special-Report-on-Fukushima-SFP-4-r1.pdf.

79. Kevin Voight, *TEPCO to Begin Removing Nuclear Fuel Rods at Fukushima*, CNN (Nov. 7, 2013), <http://www.cnn.com/2013/11/07/world/asia/japan-tepco-fukushima-fuel-rods/index.html> [https://perma.cc/V567-TYMQ].

80. Letter from Helen Caldicott, President of Physicians for Social Responsibility, et al. to Ban Ki-moon, Secretary-General, United Nations (Sept. 13, 2013), <https://s3.amazonaws.com/s3.credoaction.com/images/expert-ltr-bankimoon-09-2013.pdf>.

without the U.N.'s assistance.⁸¹ Many nuclear experts, however, believed that the world had narrowly escaped an enormous nuclear disaster.⁸²

Without question, the simultaneous meltdowns of three reactors, the enormous leaks of radioactive water into the Pacific Ocean, and the continuing risk of further meltdowns, explosions and radiation releases all continue to pose a very significant threat of environmental harm to the people of Japan and the world.⁸³ Yet, there is no recognized international legal regime to protect the people of the world following such a significant environmental accident.⁸⁴

Following the March 10, 2011 earthquake and tsunamis, the Government of Japan permitted foreign nuclear experts to enter Japan and conduct independent radiation tests.⁸⁵ However, for the most part, TEPCO forbade foreign experts from entering the Fukushima complex, so these experts could only guess at what was actually happening inside the plant based on their radiation readings of nearby air, soil, and water.⁸⁶ In addition, the Government of Japan could have requested assistance from any number of nations and international organizations, but during the years immediately following the accident, Japan attempted to handle the crisis itself.⁸⁷ In fact, the

81. Martin Fackler, *Fuel Rods are Removed From Damaged Fukushima Reactor Building*, N.Y. TIMES, <http://www.nytimes.com/2014/12/21/world/asia/fuel-rods-are-removed-from-japans-damaged-fukushima-reactor.html> [https://perma.cc/7AE7-9T3F].

82. Richard Stone, *Near Miss at Fukushima is a Warning for U.S., Panel Says*, SCIENCE (May 20, 2016), <http://www.sciencemag.org/news/2016/05/burning-reactor-fuel-could-have-worsened-fukushima-disaster> [https://perma.cc/M949-UC3P].

83. Steven Starr, *Costs and Consequences of the Fukushima Daiichi Disaster*, PHYSICIANS FOR SOCIAL RESPONSIBILITY (Oct. 31, 2012).

84. IAN BROWNLIE, *PRINCIPLES OF PUBLIC INTERNATIONAL LAW* 287 (Clarendon Press 1990).

85. David McNeill, *Japanese Government Squelching Efforts to Measure Fukushima Meltdown*, 12 ASIA-PACIFIC J., Iss. 12, No. 2, (Mar. 24, 2014).

86. *Id.*

87. Mark Willacy, *Japan Agrees to Foreign Help with Fukushima*, ABC THE WORLD TODAY (Sept. 25, 2013), <http://www.abc.net.au/worldtoday/content/2013/s3855960.htm> [https://perma.cc/W6TT-MNHJ]. The French company Areva did attempt to assist TEPCO remove radiation from radioactive water. *See, e.g., Japan to Ask Areva for Nuclear-Crisis Help*, WALL STREET J. (Mar. 31, 2011),

Government of Japan has simply deferred to TEPCO to handle the disaster,⁸⁸ even though TEPCO had permitted the disaster to happen in the first place,⁸⁹ has engaged in cover-ups to hide the severity of the situation from the Japanese population and the rest of the world,⁹⁰ and, in many experts' opinion, is failing in its attempts to decommission the Fukushima plant.⁹¹

An independent study commissioned by the Diet (national legislature) of Japan concluded that the nuclear disaster at Fukushima was a man-made and not a natural disaster.⁹² In particular, it found that TEPCO overlooked repeated warnings of “the high possibility of tsunami levels reaching beyond assumptions made at the time of construction, as well as the possibility of core damage in the case of such a tsunami.”⁹³ The report also found that TEPCO had failed to establish adequate back-up power and cooling systems at the plant.⁹⁴ The report also stated that the Fukushima disaster made very clear that

<http://www.marketwatch.com/story/japan-to-ask-areva-for-nuclear-crisis-help-report-2011-03-31> [<https://perma.cc/3N2D-XBDV>].

88. *Japan Nuclear Crisis 'Over in Nine Months'*, BBC (Apr. 17, 2011), <http://www.bbc.com/news/world-asia-pacific-13107846> [<https://perma.cc/2FX6-WU78>].

89. See text accompanying *infra* notes 92 - 96.

90. See, e.g., text accompanying *supra* notes 52-53, 56.

91. Aaron Sheldrick & Minami Funakoshi, *Fukushima's Ground Zero: No place for Man or Robot*, REUTERS (Mar. 11, 2016), <http://www.reuters.com/article/us-japan-disaster-decommissioning-idUSKCN0WB2X5> [<https://perma.cc/NKV2-LW6P>]; see also *Fukushima Operator Pleads for International Help as Radiation Crisis Deepens*, RT (Aug. 22, 2013), <https://www.rt.com/news/fukushima-international-iaea-leak-866/> [<https://perma.cc/2HT4-HRDR>] (quoting nuclear accident researcher Christina Consolo to the effect that “Unfortunately, TEPCO waited until a severe emergency arose to finally report how bad things really are. Historically, everything TEPCO says always turns out to be much worse than they initially admit.”).

92. The National Diet of Japan Fukushima Nuclear Accident Independent Investigation Commission, THE NATIONAL DIET OF JAPAN, at 9 (2012), https://www.nirs.org/wp-content/uploads/fukushima/naic_report.pdf [hereinafter The National Diet Report]; see also *Japan Says Fukushima Disaster was 'Man-Made' Parliamentary Panel Finds that the Meltdown at Nuclear Site Was Not Only Due to Tsunami, and Criticizes Official Response*, ALJAZEERA (July 5, 2012), <http://www.aljazeera.com/news/asia-pacific/2012/07/2012755496885199.html> [<https://perma.cc/SUM2-TEUJ>].

93. The National Diet Report, *supra* note 92, at 27.

94. The National Diet Report, *supra* note 92, at 30.

the nuclear regulatory system in Japan had failed to ensure that Fukushima was operated in a safe manner.⁹⁵ This failure was due to the historically close relationship between nuclear regulators and nuclear plant operators in Japan and the conflict of interest the Ministry of Economy, Trade and Industry (METI) has in simultaneously promoting the use of nuclear power and ensuring the safety of nuclear power operations.⁹⁶

The Fukushima disaster brought home to many people around the world the increasingly dangerous nature of our highly interconnected world⁹⁷ as well as the lack of international institutions capable of protecting the various populations and environments affected by a major international environmental emergency.⁹⁸ Both the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) and the International Atomic Energy Agency (IAEA) possess a role in response to a nuclear accident, but neither has any real enforcement power.⁹⁹ In fact, there are no international nuclear safety regulations which the IAEA or any other international agency can enforce.¹⁰⁰

95. The National Diet Report, *supra* note 92, at 30.

96. The National Diet Report, *supra* note 92, at 43, 78.

97. *See, e.g.*, Stephen Brozak & Henry Bassman, *Fukushima: A Nuclear Threat to Japan, the U.S. and the World*, ABC NEWS (Apr. 6, 2011), <http://abcnews.go.com/Health/fukushima-leak-threat-japan-us-world/story?id=13303513> [<https://perma.cc/R28H-KJLZ>] (“The Fukushima disaster has become more than a local, regional or national Japanese event. The worldwide implications of the event are becoming apparent: though a major leak in a maintenance pit of the plant has been plugged, there is still a great likelihood that significant amounts of radioactive water will continue to be released into the Pacific Ocean; the worldwide Just-In-Time manufacturing cycle has been interrupted; and increased levels of radiation have been detected on the U.S. East Coast.”).

98. PETER MACALISTER-SMITH, *INTERNATIONAL HUMANITARIAN ASSISTANCE: DISASTER RELIEF ACTIONS IN INTERNATIONAL LAW AND ORGANIZATION* 56 (Springer 1985); Lynn H. Stephens & Stephen J. Green, *Conclusion: Progress, Problems and Predictions*, in *DISASTER ASSISTANCE: APPRAISAL, REFORM AND NEW APPROACHES* 293, 295 (Lynn H. Stephens & Stephen J. Green eds., N.Y. Univ. Press 1979).

99. INTERNATIONAL ATOMIC ENERGY AGENCY, *IAEA SAFETY STANDARDS*, Series No. GS-G-1.3, *Regulatory Inspection of Nuclear Facilities and Enforcement by the Regulatory Body*, 24, http://www-pub.iaea.org/MTCD/publications/PDF/Pub1130_scr.pdf.

100. *Id.* at 4-5.

The UNSCEAR was established by the United Nations General Assembly in 1955,¹⁰¹ and its mandate is “to undertake broad assessments of the sources of ionizing radiation and its effects on human health and the environment. . . .”¹⁰² However, the UNSCEAR “has no power to set radiation standards nor make recommendations.”¹⁰³

The IAEA was established as an autonomous international organization by the IAEA Statute on October 23, 1956, and it became operational on July 29, 1957.¹⁰⁴ Its mandates are to promote the peaceful use of nuclear energy, prevent the use of nuclear energy for any military purpose, and encourage countries to adopt nuclear safety standards.¹⁰⁵

The only obligations that a party to the IAEA Statute possesses are that it must report a nuclear incident or accident to the IAEA and the States “which are or may be physically affected” by the accident,¹⁰⁶

101. Rep. of the United Nations Scientific Committee on the Effects of Atomic Radiation of the Fifty-sixth session of the U.N. of the Sixty-Third Session of the U.N. G.A., Supplement No. 46, (July 10-18, 2008), http://www.iaea.org/inis/collection/NCLCollectionStore/_Public/41/084/41084475.pdf.

102. Sources, Effects and Risk of Ionizing Radiation, Rep. of the UNSCEAR (2012), http://www.unscear.org/docs/reports/2012/UNSCEAR2012Report_15-08936_eBook_website.pdf (citation omitted). “The Committee also reviews advances in the understanding of the biological mechanisms by which radiation-induced effects on health or on the environment can occur. Those assessments provide the scientific foundation used . . . by the relevant agencies of the United Nations system in formulating international standards for protection of the public and of workers against ionizing radiation[.]” *Id.*

103. QUALITY IN NUCLEAR MEDICINE 72 (Andor W.J.M. Glaudemans et al., eds., Springer 2017).

104. INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA) Statute, 276 UNTS 3 (adopted Oct. 23, 1956); IAEA.org, *About the International Atomic Energy Agency (IAEA) Statute*, <https://www.iaea.org/about/about-statute> (last visited July 11, 2016). Although the IAEA technically is not a United Nations entity, the IAEA reports to both the United Nations General Assembly and the Security Council. The IAEA’s relationship with the United Nations is guided by an agreement signed by both parties in 1957. IAEA.org, *Relationship with the United Nations*, <https://www.iaea.org/technicalcooperation/Partnerships/Relation-UN/index.html>, (last visited Aug. 15, 2016).

105. IAEA Statute, arts. II, III, and XII, (Oct. 23, 1956), <https://www.iaea.org/about/statute> (last visited July 11, 2016).

106. This obligation is set forth in the Early Notification Convention, *supra* note 45, art. 2(a).

notify the IAEA of the experts, equipment and materials that it could make available to other parties in an emergency,¹⁰⁷ notify any party requesting assistance in an emergency whether it is in a position to provide that assistance,¹⁰⁸ and “establish and maintain a legislative and regulatory framework to govern the safety of nuclear installations.”¹⁰⁹ In short, like the UNSCEAR, the IAEA does not possess the power to ensure the safety of nuclear plants or the power to manage post-accident control and clean-up activities.¹¹⁰ The IAEA is often portrayed as an advocate of nuclear power,¹¹¹ and, in any case, its dual mandates to promote the peaceful use of nuclear power and promote the safety of nuclear power plants arguably create a conflict of interest.¹¹² During the Fukushima disaster, for example, the IAEA was criticized for being slow to disseminate meaningful information and quick to defend TEPCO’s and Japan’s actions.¹¹³ There are even reports that IAEA personnel were aware within a few weeks of the

107. This obligation is set forth in the IAEA INFCIRC, articles 2(2), 2(3), Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency of 1994, <https://www.iaea.org/sites/default/files/infcirc> (1995); 33 ILM 1514 (1994)449.pdf.

108. *Id.*

109. Convention on Nuclear Safety, art. 7(1), 1963 UNTS 293, S Treaty Doc. No. 104-6 (1995); 33 ILM 1514 (1994) (signed in Vienna June 17, 1994), art. 7(1).

110. INTERNATIONAL ATOMIC ENERGY AGENCY, IAEA Safety Standards Series: Legal and Governmental Infrastructure for Nuclear, Radiation, Radioactive Waste and Transport Safety: Requirements, No. GS-R-1, 2, http://www-pub.iaea.org/MTCD/publications/PDF/Pub1093_scr.pdf (“The IAEA’s safety standards are not legally binding on Member States but may be adopted by them, at their own discretion, for use in national regulations in respect of their own activities.”).

111. “The Nuclear Energy Department fosters the efficient and safe use of nuclear power by supporting existing and new nuclear programmes around the world, catalyzing innovation and building indigenous capability in energy planning, analysis, and nuclear information and knowledge.” IAEA.org, *About the Nuclear Energy Department*, <https://www.iaea.org/OurWork/ST/NE/Main/about.html> (last visited Nov. 24, 2017).

112. Christian MacPherson, *A Big Conflict of Interest in the International Atomic Energy Agency*, NUCLEAR NEWS (June 4, 2011), <https://nuclear-news.net/2011/06/04/a-big-conflict-of-interest-in-the-international-atomic-energy-agency/> [<https://perma.cc/SDL2-3K6K>].

113. Julian Borger, *UN’s Nuclear Watchdog IAEA under Fire over Response to Japanese Disaster*, THE GUARDIAN (Mar. 15, 2011), <https://www.theguardian.com/world/2011/mar/15/nuclear-watchdog-response-japanese-disaster> [<https://perma.cc/Q3TC-SFAN>].

Fukushima accident that Reactors 1-3 had suffered a meltdown and yet the IAEA failed to disclose this information to the public or even the parties to the IAEA Statute.¹¹⁴

3. BP Oil Spill

According to previous United States President Obama, the United States experienced its most serious environmental emergency¹¹⁵ on April 20, 2010, when the Deepwater Horizon oil drilling platform suffered a gas leak and exploded.¹¹⁶ Deepwater Horizon was located off the coast of the continental U.S., in the Gulf of Mexico, but within the U.S.' exclusive economic zone (EEZ).¹¹⁷ The explosion immediately killed eleven people, injured 17 more, and completely demolished the Deepwater Horizon facility.¹¹⁸ Moreover, while the world watched in horror, the Deepwater Horizon oil well leaked at least 36,667 barrels¹¹⁹ (1,540,014 gallons)¹²⁰ of oil per day into the Gulf

114. Washingtonsblog, *Declassified U.S. Government Report Prepared a Week after Fukushima Accident: "100% of The Total Spent Fuel Was Released to the Atmosphere from Unit 4"*, WASHINGTON'S BLOG (Dec. 10, 2015), <http://www.washingtonsblog.com/2015/12/declassified-u-s-government-report-week-fukushima-accident-100-total-spent-fuel-released-atmosphere-unit-4.html> [<https://perma.cc/7CWC-EU7M>].

115. Drew Griffin et al., *5 Years after the Gulf Oil Spill: What We Do (and Don't) Know*, CNN, (Apr. 20, 2015), <http://www.cnn.com/2015/04/14/us/gulf-oil-spill-unknowns/> [<https://perma.cc/X3UJ-5GL5>].

116. *Deepwater Horizon Accident and Response*, BP, https://www.bp.com/en_us/bp-us/community/commitment-to-the-gulf-of-mexico/deepwater-horizon-accident.html (last visited July 19, 2016).

117. Rebecca K. Richards, *Deepwater Mobile Oil Rigs in the Exclusive Economic Zone and the Uncertainty of Coastal State Jurisdiction*, 10 J. INT'L BUS. & LAW 387, 388-389 (2011).

118. Richard Pallardy, *Deepwater Horizon Oil Spill of 2010*, Encyclopedia Britannica (2017), <https://www.britannica.com/event/Deewater-Horizon-oil-spill-2010> (last visited Aug. 20, 2017).

119. This figure is based on the fact that the accident lasted 87 days and the estimated number of barrels of oil that were released into the Gulf throughout those 87 days is 3.19 million. See, e.g., NOAA, *Deepwater Horizon Trustees Announce Draft Restoration Plans for Gulf of Mexico Following 2010 Disaster*, NOAA NEWS (Oct. 5, 2015) (based on U.S. Coast Guard figures) [hereinafter NOAA, *Deepwater Horizon*]; see also Griffin, *supra* note 115.

120. This figure is based on the number of barrels released per day (see NOAA, *Deepwater Horizon*, *supra* note 119), multiplied by 42, as there are 42 gallons in each barrel of crude oil. *History of the 42-Gallon Oil Barrel*, AMERICAN OIL & GAS

of Mexico for 87 straight days, for a total of at least 3.19 million barrels¹²¹ (or 134 million gallons)¹²² of oil, until the main operator of the well, British Petroleum (BP), finally was able to plug the leak.¹²³ Exposure to this oil as well as to an oil dispersant called corexit used during the cleanup process caused thousands of clean-up personnel and residents of the Gulf of Mexico coastal areas to suffer serious health problems, including severe rashes, nausea, headaches, and respiratory tract infections.¹²⁴ In addition, many of the coastal areas of five U.S. States - Louisiana, Mississippi, Alabama, Texas, and Florida – were ecologically decimated, and local residents suffered billions of dollars in damages for lost property and income.¹²⁵ BP's civil settlement with the U.S. Department of Justice, the five Gulf states, and over 400 local government entities for \$20.8 billion was the largest ever

HISTORICAL SOCIETY (2017), <http://aoghs.org/transportation/history-of-the-42-gallon-oil-barrel/> (last visited Aug. 20, 2017); Larry Shaughnessy, *Not All the Oil in the Gulf is Coming from BP's Spill*, CNN (July 10, 2010), <http://www.cnn.com/2010/US/06/10/csi.gulf.oil.spill/> [<https://perma.cc/9XT2-6MBQ>].

121. *Gulf Oil Spill*, OCEAN PORTAL SMITHSONIAN NAT'L MUSEUM OF NATURAL HISTORY, <http://ocean.si.edu/gulf-oil-spill> (last visited Aug. 15, 2016); NOAA, *Deepwater Horizon*, *supra* note 119.

122. NOAA, *Deepwater Horizon*, *supra* note 119.

123. These estimates are on the low side. At one point, the U.S. Government claimed that more than 60,000 barrels per day poured into the Gulf at the height of the disaster, (Pallardy, *supra* note 118) and ultimately the U.S. Government estimated that 4.2 million barrels spilled into the Gulf over the course of the accident. Griffin, *supra* note 115. A study conducted by Timothy Crone, a marine geophysicist at Columbia University's Lamont-Doherty Earth Laboratory, estimated that a total of 4.4 million barrels of oiled spilled into the Gulf. Rosanne Skirble, *Scientists Estimate 4.4 Million Barrels of Oil Escaped BP's Broken Well*, VOA (Sept. 22, 2010), <https://www.voanews.com/a/scientists-estimate-44-million-barrels-of-oil-escaped-broken-well-103641884/169578.html> [<https://perma.cc/NR4Z-GBKT>]. BP claimed that the amount of oil that leaked into the Gulf was much lower, and a federal court ultimately held BP liable for leaking 3.1 million barrels into the Gulf. *See, e.g.*, Griffin, *supra* note 115.

124. Dahr Jamail, *BP Dispersants 'Causing Sickness'*, ALJAZEERA, (Oct. 29, 2010), <http://www.aljazeera.com/indepth/features/2010/10/20101027132136220370.html> [<https://perma.cc/H2CG-Q3JQ>].

125. *See, e.g.*, Svati Kirsten Narula, *BP Will Pay a Record-Breaking \$18.7 Billion Settlement for the Deepwater Horizon Oil Spill*, QZ (July 2, 2015), <https://qz.com/443792/bp-will-pay-a-record-breaking-18-7-billion-settlement-for-the-deepwater-horizon-oil-spill/> [<https://perma.cc/3UAV-LKU3>].

environmental settlement amount and the largest civil settlement with a single entity in the U.S.¹²⁶

Moreover, the oil spill (and use of the dispersant corexit) severely impacted the entire ecosystem of the Gulf of Mexico.¹²⁷ Several coastal

126. See, e.g., Campbell Robertson et al., *BP to Pay \$18.7 Billion for Deepwater Horizon Oil Spill*, N.Y. TIMES (July 2, 2015), <https://www.nytimes.com/2015/07/03/us/bp-to-pay-gulf-coast-states-18-7-billion-for-deepwater-horizon-oil-spill.html?mcubz=1> [<https://perma.cc/X3Y7-K79H>]. BP entered into a civil settlement for \$20.8 billion to cover the claims of the U.S. Department of Justice, the five Gulf states of Louisiana, Mississippi, Alabama, Florida, and Texas, and more than 400 local government entities. See, e.g., Loren Grush, *BP Fine a Record \$20.8 Billion for Oil Spill Disaster*, THE VERGE (Oct. 5, 2015), <https://www.theverge.com/2015/10/5/9454393/bp-oil-spill-record-fine-doj-settlement> [<https://perma.cc/46Y3-P9DC>]; *BP to Pay More Than \$20 Billion in Record Gulf Oil Spill Settlement*, FOX NEWS (Oct. 5, 2015), <http://www.foxnews.com/us/2015/10/05/bp-to-pay-more-than-20-billion-in-gulf-oil-spill-case-largest-settlement-in-us.html> [<https://perma.cc/WUA4-Y2LS>] [hereinafter Fox News Report]. Of this amount, \$5.5 billion was attributable to Clean Water Act penalties. See *id.* The remainder was intended to compensate the five Gulf states and local governments for environmental and economic damage. See Robertson, *supra* note 126. In addition, BP paid a criminal penalty of between \$4 billion and \$4.5 billion. *Id.*; see also Narula, *supra* note 125. As of 2015, BP had also paid between \$5.8 billion and \$9 billion for damage claims to individuals and private companies. See Narula, *supra* note 125; Fox News Report, *supra* note 126. Transocean, Halliburton, and Anadarko all paid similarly large civil and criminal penalties to the U.S. Government and/or U.S. plaintiffs. U.S. Dep't of Just., *Transocean Agrees to Plead Guilty to Environmental Crime and Enter Civil Settlement to Resolve U.S. Clean Water Act Penalty Claims from Deepwater Horizon Incident*; JUSTICE NEWS (Jan. 3, 2013), <https://www.justice.gov/opa/pr/transocean-agrees-plead-guilty-environmental-crime-and-enter-civil-settlement-resolve-us> [<https://perma.cc/H6WZ-6JAG>]; Daniel Gilbert, *Halliburton to Settle Deepwater Horizon Claims for \$1.1 Billion Agreement Settles Majority of Claims Related to 2010 Rig Explosion in Gulf of Mexico*, WALL ST. J. (Sept. 2, 2014), <http://www.wsj.com/articles/halliburton-to-settle-deepwater-horizon-claims-for-1-1-billion-1409664524> [<https://perma.cc/B3J3-QBE6>]; Richards, *supra* note 117. Mexico's lawsuit against BP for damages is still pending. Nina Lakhani, *BP Faces Mexican Class Action Lawsuit over Deepwater Horizon Oil Spill*, THE GUARDIAN (Dec. 11, 2015), <https://www.theguardian.com/environment/2015/dec/11/bp-gulf-oil-spill-mexico-lawsuit-deepwater-horizon> [<https://perma.cc/MZ9L-Y3MJ>].

127. DEEPWATER HORIZON NATURAL RESOURCE DAMAGE ASSESSMENT TRUSTEES, FINAL PROGRAMMATIC DAMAGE ASSESSMENT AND RESTORATION PLAN (PDARP) AND FINAL PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT (PEIS), 2016, <http://www.gulfspillrestoration.noaa.gov/restoration-planning/gulf->

wetlands were severely damaged,¹²⁸ and the spill appears to have affected the deep ocean even more than it affected the coastlines along the Gulf of Mexico.¹²⁹ At the time of the accident, a few dozen Bryde's whales lived in the Gulf of Mexico.¹³⁰ Almost half of this population was affected by the oil spill, and "nearly a quarter were likely killed."¹³¹ All twenty-one species of dolphins in the Gulf suffered "demonstrable . . . injuries[,]"; half of the bottlenose dolphin population was killed,¹³² and it is estimated that it will take "approximately one hundred years for the spinner dolphin population to recover."¹³³ Approximately 167,000 sea turtles were killed, the recent recovery of the endangered Kemp's Ridley sea turtle was halted, and approximately a quarter of the floating Sargassum seaweed that is home to many juvenile sea turtles was destroyed.¹³⁴

Between two and five million larval fish were killed,¹³⁵ and numerous species of fish, including red snapper, southern flounder,

plan (last visited July 20, 2016)) [hereinafter *NOAA Report on Deepwater Horizon Oil Spill*].

128. *Restoring the Gulf*, Nat'l Wildlife Federation, <https://www.nwf.org/Our-Work/Waters/Gulf-Restoration> (last visited Jan. 20, 2018) (discussing *NOAA Report on Deepwater Horizon Oil Spill*) [hereinafter NWF, *Restoring the Gulf*].

129. See Office of Response and Restoration, *At the Bottom of the Gulf of Mexico, Corals and Diversity Suffered After Deepwater Horizon Oil Spill, The Deepwater Horizon Oil Spill: Five Years Later*, NOAA, <http://response.restoration.noaa.gov/about/media/bottom-gulf-mexico-corals-and-diversity-suffered-after-deepwater-horizon-oil-spill.html> (last visited Aug. 15, 2016); Craig Pittman, *Three Years After BP Oil Spill, USF Research Finds Massive Die-Off*, TAMPA BAY TIMES (Apr. 5, 2013), <http://www.tampabay.com/news/environment/water/gulf-oil-spill-killed-millions-of-microscopic-creatures-at-base-of-food/2113157> [https://perma.cc/MPV6-A7HS].

130. NWF, *Restoring the Gulf*, *supra* note 128.

131. *Id.* Ultimately, the Natural Resources Defense Council petitioned the U.S. Environmental Protection Agency to have the Bryde's whale listed on the Endangered Species List. See *Balaenoptera edeni* as endangered under the Endangered Species Act, NATURAL RESOURCES DEFENSE COUNCIL, PETITION TO LIST THE GULF OF MEXICO'S BRYDE'S WHALE (*BALAENOPTERA EDENI*) AS ENDANGERED UNDER THE ENDANGERED SPECIES ACT, Sept. 18, 2014, https://www.nrdc.org/sites/default/files/wil_14091701a.pdf.

132. NWF, *Restoring the Gulf*, *supra* note 128.

133. NWF, *Restoring the Gulf*, *supra* note 128.

134. NWF, *Restoring the Gulf*, *supra* note 128.

135. "Larval Fish" is the term for fish between the time they are hatched and they have attained all of their fin rays and started to grow scales. A.W. KENDALL ET AL.,

redfish, and killfish, suffered deformities including unusual lesions, rotting fins, and oil in their liver.¹³⁶ At least 102 species of birds were harmed by the oil spill, with the most negatively affected being brown and white pelicans, laughing gulls, Audubon's shearwaters, northern gannets, clapper fails, black skimmers, white ibis, double-crested cormorants, common loons, and several species of tern.¹³⁷

Much of the sea floor of the Gulf of Mexico was affected by the oil spill, and experts estimate that it will be many decades or even hundreds of years for sea bottom dwellers to recover.¹³⁸ For example, approximately 8.3 million oysters were killed, and five different coral colonies were damaged.¹³⁹ In addition, tiny, amoeba-like creatures called foraminifera that live at the bottom of the ocean were especially impacted.¹⁴⁰ Foraminifera are a source of food for clams and other creatures at the bottom of the food chain, so their decimation jeopardizes the entire marine food chain in the Gulf of Mexico.¹⁴¹

The ecology of the Gulf of Mexico and residents of nearby coastlines clearly suffered the lion's share of harm from this accident, but this accident also harmed and threatened to harm marine and

EARLY LIFE HISTORY STAGES OF FISHES AND THEIR CHARACTERISTICS, American Society of Ichthyologists and Herpetologists, Special Publication 1: 11-22, <http://www.biodiversitylibrary.org/pef2/002744900023343.pdf>.

135. NWF, *Restoring the Gulf*, *supra* note 128.

136. NWF, *Restoring the Gulf*, *supra* note 128.

137. NWF, *Restoring the Gulf*, *supra* note 128; *see also* Center for Biological Diversity, *A Deadly Toll: the Gulf Oil Spill and the Unfolding Wildlife Disaster* (Apr. 2011), http://www.biologicaldiversity.org/programs/public_lands/energy/dirty_energy_development/oil_and_gas/gulf_oil_spill/a_deadly_toll.html (last visited Aug. 20, 2017).

138. Center for Biological Diversity, *supra* note 137.

139. NWF, *Restoring the Gulf*, *supra* note 128.

140. *See, e.g.*, S.B. Joye et al., *Microbial Dynamics Following the Macondo Oil Well Blowout across Gulf of Mexico Environments*, 64 *Bioscience* 766 (2014); Claudia Dreifus, *Revisiting the Deepwater Horizon Oil Spill*, N.Y. TIMES (Mar. 21, 2011), <http://www.nytimes.com/2011/03/22/science/22conversation.html?mcubz=1> [<https://perma.cc/SH6J-6CQS>]; Pittman, *supra* note 129; David Kirby, *Corexit, Oil Dispersant Used By BP, Is Destroying Gulf Marine Life, Scientists Say*, HUFFINGTON POST (Apr. 25, 2013), http://www.huffingtonpost.com/2013/04/25/corexit-by-oil-dispersant_n_3157080.html [<https://perma.cc/6VHX-KHZL>].

141. Kirby, *supra* note 140.

coastal habitats around the world.¹⁴² Given the currents in the Gulf of Mexico, the oil slick threatened to harm coastal areas along the U.S. eastern seaboard and western Europe.¹⁴³ Between 700 and 1,200 miles of the Gulf of Mexico sea bottom – far outside of the U.S. exclusive economic zone – was covered in oil.¹⁴⁴ Sea turtles throughout the Atlantic appear to have been harmed,¹⁴⁵ and the Government of Mexico is suing BP and other defendants for significant ecological harm that four Mexican states allegedly have suffered.¹⁴⁶

The Deepwater Horizon accident was an international accident in other ways as well. The accident occurred in the northern Gulf of Mexico, within the area of the U.S.’ exclusive economic zone (EEZ).¹⁴⁷ However, the EEZ is located beyond the U.S.’ territorial waters,¹⁴⁸ and much of the Gulf of Mexico which was harmed in the accident constitutes the “common heritage of mankind” owned by all countries.¹⁴⁹ The rig that exploded was owned by Transocean Ltd, a

142. Ocean pollution accidents generally are considered to be international incidents, because ocean currents dispense the pollution long distances around the world. *See, e.g.*, Marissa Smith, *The Deepwater Horizon Disaster: An Examination of the Spill’s Impact on the Gap in International Regulation of Oil Pollution from Fixed Platforms*, 25 EMORY L. REV. 1477, 1477, n.8 (2011) (citing Kate Galbraith, *Gap in Rules on Oil Spills from Wells*, INT’L HERALD TRIBUNE (May 17, 2010)).

143. *See, e.g.*, Press Release, Nat’l Center for Atmospheric Research & U. Corp. for Atmospheric Research, *Ocean Currents Likely To Carry Oil Along Atlantic Coast*, National Center for Atmospheric Research (June 3, 2010), <https://www2.ucar.edu/atmosnews/news/2154/ocean-currents-likely-carry-oil-along-atlantic-coast> [<https://perma.cc/EB4V-BSCQ>]; Joshua Rapp Learn, *Gulf Spill May Have Affected Sea Turtles Across Atlantic*, THE WILDLIFE SOCIETY (Jan. 11, 2016), <http://wildlife.org/gulf-spill-may-have-affected-sea-turtles-across-atlantic/> [<https://perma.cc/Y6FK-83P2>].

144. Joye et al., *supra* note 140; NWF, *Restoring the Gulf*, *supra* note 128.

145. *See* N.F. Putman et al., *Deepwater Horizon Oil Spill Impacts on Sea Turtles Could Span the Atlantic*, 11 BIOLOGY LETTERS 12 (2015); *see also* Learn, *supra* note 143.

146. Lakhani, *supra* note 126.

147. United Nations Convention on the Law of the Sea, Dec. 10 1982, 1833 U.N.T.S. 397 [hereinafter UNCLOS]. For a definition of the exclusive economic zone (EEZ), *see* UNCLOS, Arts. 55–57.

148. “Every State has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baselines determined in accordance with this Convention.” *Id.* at art. 3.

149. *Id.* at art. 136.

Swiss company,¹⁵⁰ which had registered the rig as a vessel “sailing” the high seas under the flag of the Republic of the Marshall Islands (RMI).¹⁵¹ As the country under whose flag the vessel was registered, the RMI was responsible for enforcing safety regulations on the rig.¹⁵² BP and Anadarko, the co-owners of the well,¹⁵³ are U.K. and U.S. companies, respectively,¹⁵⁴ and Halliburton, which had installed cement around the well at the bottom of the sea floor,¹⁵⁵ is a U.S. company.¹⁵⁶

Various studies have concluded that the accident was caused by a combination of (1) overconfidence of BP, Transocean, Halliburton, and Anadarko and their consequent safety violations; (2) poor government oversight, especially by the U.S. and the RMI; (3) the absence of a plan to cope with an oil spill of the magnitude of the Deepwater Horizon tragedy; and (4) the absence of an effective international regulatory scheme concerning deepwater oil wells operating far from the shores of any national government.¹⁵⁷ As one commentator explained the situation:

150. See, e.g., Jef Feeley & Allen Johnson, Jr., *BP, Transocean Accused of ‘Reckless’ Actions in Spill*, BLOOMBERG (Feb. 26, 2013), <http://www.bloomberg.com/news/articles/2013-02-25/bp-oil-spill-errors-trial-begins-in-new-orleans-court> [<https://perma.cc/VX86-8EAU>].

151. Richards, *supra* note 117.

152. See UNCLOS, *supra* note 147, at art. 94.

153. Laurel Brubaker Calkins & Margaret Cronin Fisk, *Anadarko’s \$160 Million Fine for 2010 Gulf Oil Spill Falls Well below What U.S. Sought*, INSURANCE J. (Nov. 30, 2015), <http://www.insurancejournal.com/news/national/2015/11/30/390346.htm> [<https://perma.cc/SX7A-V4G6>].

154. *BP PLC*, <https://www.britannica.com/topic/BP-PLC> (last visited Aug. 20, 2017); *Anadarko Petroleum Corporation History*, FUNDING UNIVERSE, <http://www.fundinguniverse.com/company-histories/anadarko-petroleum-corporation-history/> (last visited Aug. 20, 2017).

155. Ben Casselman & Russell Gold, *BP Decisions Set Stage for Disaster*, WALL ST. J. (May 27, 2010), <http://www.wsj.com/articles/SB10001424052748704026204575266560930780190> [<https://perma.cc/84QQ-GT8U>].

156. History of Halliburton, HALLIBURTON <http://www.halliburton.com/en-US/about-us/history-of-halliburton-of-halliburton.page?node-id=hgeyxt5y> (last visited Aug. 20, 2017).

157. See, e.g., Robert L. Cavnar, *Preliminary Deepwater Horizon Report Rips Transocean, Marshall Islands*, HUFFINGTON POST (Apr. 23, 2011), http://www.huffingtonpost.com/robert-l-cavnar/preliminary-deepwater-hor_b_852932.html, [<https://perma.cc/WQ7U-S892>]; James B. Meigs, *Blame BP for Deepwater Horizon. But Direct Your Outrage to the Actual Mistake.*, SLATE (Sept.

The reality is that both BP and Transocean had grown dangerously overconfident and were pushing too close to the edge. Perhaps overly impressed by the team's good safety record, [U.S.] federal regulators routinely rubber-stamped the BP/Transocean proposals. Moreover, despite claims to the contrary, none of the drilling companies in the Gulf had a workable scheme to cope with a massive oil spill. The entire industry had succumbed to risk creep: over the decades, drillers gradually moved into deeper waters and sunk wells that involved much greater internal pressures and hazards. The technologies and regulations originally developed for shallow waters were updated in response, but not to a degree commensurate with the growing risks. So, even as drillers were getting more proficient, disaster was becoming more, not less, likely.¹⁵⁸

The fact that no international treaty addresses an "explosion of or leak from a fixed, offshore oil platform"¹⁵⁹ is particularly alarming, given that experts estimate that today there are 417 off-shore oil rigs operating in the world, 100 more than were operating in 2010 at the time of the Deepwater Horizon accident.¹⁶⁰ In addition, approximately 63 of these rigs are deepwater rigs operating in the Gulf of Mexico, far from any national government.¹⁶¹ Furthermore, there are approximately 27,000 abandoned oil and gas wells located in the Gulf of Mexico that could be leaking oil and gas, with no government or company monitoring these abandoned wells.¹⁶²

30, 2016), http://www.slate.com/articles/health_and_science/science/2016/09/bp_is_to_blame_for_deepwater_horizon_but_its_mistake_was_actually_years.html [<https://perma.cc/TJN8-QM24>].

158. Meigs, *supra* note 157.

159. *See, e.g.*, Smith, *supra* note 142, at 1478-79.

160. *Number of offshore rigs worldwide 2016-2017*, STATISTA, <http://www.statista.com/statistics/307146/number-of-offshore-rigs-worldwide/> (last visited Aug. 7, 2016).

161. Wendy Koch, *Is Deepwater Drilling Safer, 5 Years After Worst Oil Spill*, NAT'L GEOGRAPHIC (Apr. 20, 2015), <http://news.nationalgeographic.com/2015/04/150420-bp-gulf-oil-spill-safety-five-years-later/> [<https://perma.cc/9XTP-VM5Z>].

162. Associated Press, *27,000 Abandoned Oil and Gas Wells in Gulf of Mexico Ignored by Government, Industry*, THE TIMES-PICAYUNE (July 7, 2010),

Despite the gravity of the Deepwater Horizon accident, the U.S. never requested that the United Nations or any other multilateral organization organize clean-up efforts.¹⁶³ The Federal Aviation Authority instituted a no fly-zone over the oil spill, and the U.S. Department of Homeland Security reportedly denied media access to the area, at least for a period of time.¹⁶⁴ Photographers complained that BP similarly restricted media access to the accident site.¹⁶⁵ In addition, the U.S. declined more offers of assistance from other countries and international bodies than it accepted,¹⁶⁶ and, although the Department

http://www.nola.com/news/gulf-oil-spill/index.ssf/2010/07/27000_abandoned_oil_and_gas_we.html [<https://perma.cc/CCD7-Z923>].

163. Press Release, U.S. Dep't of State, International Offers of Assistance for the Oil Spill in the Gulf of Mexico (Taken Question), (May 5, 2010), <https://2009-2017.state.gov/r/pa/prs/ps/2010/05/141548.htm>.

164. See Federal Aviation Administration, NOTAM FDC 0/5100 (June 9, 2010), <http://archive.li/xbZG6> (“No pilots may operate an aircraft in the areas covered by this NOTAM. . . .” for the location “Gulf of Mexico oil spill and affected coastline”); Jeremy Peters, *Efforts to Limit the Flow of Spill News*, N.Y. TIMES (June 9, 2010), <http://www.nytimes.com/2010/06/10/us/10access.html?pagewanted=all&mcubz=1> [<https://perma.cc/Q2G2-83EE>].

165. See, e.g., Matthew Philips, *Photographers Say BP Restricts Access to Oil Spill*, NEWSWEEK (May 25, 2010), <http://www.newsweek.com/photographers-say-bp-restricts-access-oil-spill-72849> [<https://perma.cc/HS3M-Y6G3>].

166. Press Release, U.S. Dep't. of State, Deepwater Horizon Oil Spill: International Offers of Assistance, June 29, 2010, <https://2009-2017.state.gov/r/pa/prs/ps/2010/06/143771.htm>; Jena Baker McNeill et al., *Accepting Disaster Relief from Other Nations: Lessons from Katrina and the Gulf Oil Spill*, THE HERITAGE FOUNDATION (Feb. 17, 2011), <http://www.heritage.org/homeland-security/report/accepting-disaster-relief-other-nations-lessons-katrina-and-the-gulf-oil> [<https://perma.cc/CLT6-EKR4>] (“After Hurricane Katrina and the BP oil spill disasters, there was an outpouring of support and offers of aid – including proposed donations of supplies, expertise, and monetary funds – from countries around the world. After both disasters, however, U.S. officials declined the majority of the assistance offered, and were slow to accept the small amount they did.”); Erik Klooster, *Dutch Consul Slams US Foot-Dragging on Oil Spill*, RADIO NETHERLANDS WORLDWIDE (June 20, 2010), <https://www.rnw.org/archive/dutch-consul-slams-us-foot-dragging-oil-spill> [<https://perma.cc/CAU5-WT9R>]; Josh Rogin, *U.S. Not Accepting Foreign Help on Oil Spill*, FOREIGN POLICY (May 6, 2010), <http://foreignpolicy.com/2010/05/06/u-s-not-accepting-foreign-help-on-oil-spill/> [<https://perma.cc/H6CZ-FVT7>] (showing that, at first, the U.S. declined any foreign aid). The federal Jones Act (46 U.S.C. § 883), which prohibits foreign-flagged vessels from engaging in coastwise trade, was responsible for some of the U.S.’s rejections of foreign offers of assistance. See, e.g., Klooster, *supra* note 166; Patrik

of Homeland Security appointed the U.S. Coast Guard to direct the cleanup of the Deepwater Horizon spill,¹⁶⁷ the Obama White House allowed BP itself to fix the gushing well¹⁶⁸ and at least initially seemed to defer to BP to organize clean-up operations.¹⁶⁹ Unfortunately, the U.S. Government's initial trust in BP was misplaced. After contributing to the accident and failing to stop the leak quickly, BP repeatedly misrepresented the severity of the incident, and ultimately paid a settlement of \$525 million to the Securities and Exchange (SEC) for inaccurate statements made in its SEC filings regarding the number of barrels of oil per day that had flowed into the Gulf of Mexico as a result of the accident.¹⁷⁰ Halliburton, another of the culpable parties,

Jonsson, *Jones Act: Maritime Politics Strain Gulf Oil Spill Cleanup*, CHRISTIAN SCIENCE MONITOR (June 19, 2010), <https://www.csmonitor.com/USA/2010/0619/Jones-Act-Maritime-politics-strain-Gulf-oil-spill-cleanup> [<https://perma.cc/9ZWU-URAE>].

167. See, e.g., David Pettit, *The Coast Guard Is in Charge in The Gulf*, NATURAL RESOURCES DEFENSE COUNCIL (May 23, 2010), <https://www.nrdc.org/experts/david-pettit/coast-guard-charge-gulf> [<https://perma.cc/42U8-WA52>].

168. See, e.g., Matthew Bigg, *U.S. Government keeps "boot on neck" of BP over spill*, May 23, 2010, <https://www.reuters.com/article/uk-oil-rig-leak/u-s-government-keeps-boot-on-neck-of-bp-over-spill-idUKTRE64J6CF20100524> [<https://perma.cc/HN87-YMEG>].

169. See, e.g., *White House Slammed for Oil Spill – Obama's Katrina?*, L.A. TIMES BLOG (May 24, 2010), <http://latimesblogs.latimes.com/washington/2010/05/white-house-blamed-for-oil-spill-obamas-katrina.html> [<https://perma.cc/F4QZ-G4YY>] (Clinton political strategist James Carville was quoted as saying of the Obama Administration at the time of the BP oil spill: "They are risking everything by this 'go along with BP' strategy . . . they seem like they're inconvenienced by this, this is some giant thing getting in their way and somehow or another, if you let BP handle it, it'll all go away. It's not going away. It's growing out there. It is a disaster of the first magnitude, and they've got to go to Plan B."). *But see* Jesse Lee, *President Obama's Oval Office Address on the BP Oil Spill: "A Faith in the Future that Sustains us as a People,"* THE WHITE HOUSE BLOG (June 16, 2010 9:34 AM), <http://obamawhitehouse.archives.gov/blog/2010/06/16/president-obamas-oval-office-address-bp-oil-spill-a-faith-future-sustains-us-a-peopl> [<https://perma.cc/XT7A-D393>].

170. Press Release, BP to Pay \$525 Million Penalty to Settle SEC Charges of Securities Fraud During Deepwater Horizon Oil Spill, (Nov. 15, 2012), <https://www.sec.gov/News/PressRelease/Detail/PressRelease/1365171485962> [<https://perma.cc/59SM-CV99>].

demonstrated its own bad faith when it destroyed evidence in connection with the Deepwater Horizon accident.¹⁷¹

4. Indonesian Fire Crisis

The final accident discussed here involves Indonesia. As Eric Meijaard, an associate professor at the University of Queensland, stated in October 2015, “BP’s Deepwater Horizon oil spill of 2010 looks relatively benign compared to Indonesia’s 2015 fire crisis . . . and that was one heck of a spill.”¹⁷² At the time of the Indonesian fire crisis in 2015, in fact, he urged the world to acknowledge the crisis for what it was: “the biggest environmental crime of the 21st century.”¹⁷³ During the dry season from approximately June through September in each of the last several years,¹⁷⁴ thousands of fires have raged out of control in Indonesia, blanketing Southeast Asia, and especially Indonesia, Malaysia, and Singapore, in a dense haze that causes severe respiratory infections and many deaths.¹⁷⁵ Due to a strong El Nino weather pattern, the fires were the most horrific during the 2015 dry season.¹⁷⁶

171. U.S. Dep’t of Just., *Halliburton Pleads Guilty to Destruction of Evidence in Connection with Deepwater Horizon Disaster and is Sentenced to Statutory Maximum*, JUSTICE NEWS (Sept. 19, 2013), <https://www.justice.gov/opa/pr/halliburton-pleads-guilty-destruction-evidence-connection-deepwater-horizon-disaster-and> [<https://perma.cc/9K26-VSRX>].

172. Lindsay Murdoch, *Disaster has Put Indonesia Top of Carbon Emissions Charts – Above Even US*, THE SYDNEY MORNING HERALD (Oct. 25, 2015), <https://www.smh.com.au/world/disaster-has-put-indonesia-top-of-carbon-emissions-charts—above-even-us-20151025-gkhu22.html> (quoting Professor Meijaard to this effect) [<https://perma.cc/DS4K-JEGE>].

173. *Id.*

174. *Jakarta Monthly Climate Average, Indonesia*, WORLD WEATHER ONLINE, <http://us.worldweatheronline.com/jakarta-weather-averages/jakarta-raya/id.aspx> (last visited July 19, 2016).

175. Kate Lamb, *Indonesia’s Fires Labelled a ‘Crime against Humanity’ as 500,000 Suffer*, THE GUARDIAN (Oct. 26, 2015), <https://www.theguardian.com/world/2015/oct/26/indonesias-fires-crime-against-humanity-hundreds-of-thousands-suffer> [<https://perma.cc/32D2-5T6Z>].

176. Agence France-Presse, *Haze from Indonesian Fires May Have Killed More Than 100,000 People – Study*, THE GUARDIAN (Sept. 19, 2016), <https://www.theguardian.com/world/2016/sep/19/haze-indonesia-forest-fires-killed-100000-people-harvard-study> [<https://perma.cc/6Z9N-25ZE>].

Most of the fires in Indonesia are started intentionally by individual farmers or enormous farming concerns which want to clear their land so that they can grow lucrative crops such as palm oil plants.¹⁷⁷ Unfortunately, much of the material that these farmers burn is carbon-rich peat, which, when burned, emits large quantities of carbon, which greatly exacerbate global warming.¹⁷⁸ It's estimated that, each day, these fires emit "more carbon dioxide than the entire U.S. economy."¹⁷⁹ Furthermore, the peat forests in question are one of the richest sources of biodiversity on the planet, and in 2015 alone the fires destroyed more than 8,000 miles of such forests.¹⁸⁰ These fires have even threatened the survival of the orangutan.¹⁸¹

The Indonesian Government initially claimed that the 2015 fires were responsible for 19 deaths and approximately 500,000 respiratory tract infections¹⁸² but later revised the death toll to 24.¹⁸³ These figures are nowhere close to the casualty figures reported by experts. For example, one study conducted by researchers at Harvard and Columbia Universities concluded that just one of the toxic substances emitted during the 2015 fires - particulate matter known as PM 2.5 - caused approximately 100,300 premature deaths of adults in Indonesia (91,600 deaths), Malaysia (6,500 deaths), and Singapore (2,200

177. Brad Plumer, *How Indonesia's Fires Became One of the World's Biggest Climate Disasters*, VOX (Oct. 30, 2015), <http://www.vox.com/2015/10/30/9645448/indonesia-fires-peat-palm-oil> [<https://perma.cc/NM7C-BHYA>].

178. *Id.*; Mariah Measey, *Indonesia: A Vulnerable Country in the Face of Climate Change*, 1 GLOBAL MAJORITY E-JOURNAL 31, 37 (June 2010).

179. *See* Brian Clark Howard, *Indonesia's Rampant Fires Threaten Rare Orangutans*, NAT'L GEOGRAPHIC (Nov. 5, 2015), <http://news.nationalgeographic.com/2015/11/151105-indonesia-fires-orangutans-photos/> [<https://perma.cc/8WZP-7RMU>].

180. *See id.*; *see also* Mary Rose C. Posa et al., *Biodiversity and Conservation of Tropical Peat Swamp Forests*, 61 BIOSCIENCE 1, 49-57 (Jan. 2011).

181. Clark Howard, *supra* note 179.

182. *See* Oliver Balch, *Indonesia's Forest Fires: Everything You Need to Know*, THE GUARDIAN (Nov. 11, 2015), <https://www.theguardian.com/sustainable-business/2015/nov/11/indonesia-forest-fires-explained-haze-palm-oil-timber-burning> [<https://perma.cc/8H4K-AJQT>]; *see also* Clark Howard, *supra* note 179.

183. *See, e.g.*, VnExpress, *Indonesia Assures No Recurrence of Deadly Haze in 2017*, VN EXPRESS INT'L (May 19, 2017), <http://e.vnexpress.net/news/news/indonesia-assures-no-recurrence-of-deadly-haze-in-2017-3587334.html> [<https://perma.cc/MXS8-24RZ>] (citing a Reuters report).

deaths).¹⁸⁴ Greenpeace cautioned that even these figures don't capture the true scope of the disaster, because the researchers did not study the effects of other toxins contained in the dense haze caused by the 2015 fires. Moreover, they did not study the effects of PM 2.5 on children, one of the groups most at risk of harm from such a particulate.¹⁸⁵ An Indonesian local health agency admitted that an infant had been killed because of the haze.¹⁸⁶ The researchers also did not study the effects of this particulate on people in other countries affected by the 2015 haze, including Cambodia, India, the Philippines, and Thailand.¹⁸⁷ Another study conducted by researchers in the U.S., the U.K., Singapore and Indonesia found that 69 million people in Indonesia, Malaysia, and Singapore alone were exposed to the deadly haze in 2015.¹⁸⁸ The researchers estimated between 6,153 and 17,270 deaths occurred as a direct result.¹⁸⁹ While the 2015 Indonesian fires were especially deadly, many people in Indonesia and nearby countries die each year from exposure to Indonesia's toxic haze.¹⁹⁰

"The World Bank estimates that the 2015 fires cost Indonesia at least 16.1 billion US Dollars equivalent to 1.9 percent of 2015 Gross

184. Shannon N. Koplitz et al., *Public Health Impacts of the Severe Haze in Equatorial Asia in September-October 2015: Demonstration of a New Framework for Informing Fire Management Strategies to Reduce Downwind Smoke Exposure*, 11 *Env't'l Research Letters* 1 (Sept. 2016), <http://iopscience.iop.org/article/10.1088/1748-9326/11/9/094023/pdf>; see also Agence France-Presse, *supra* note 176.

185. Koplitz et al., *supra* note 184, at 8.

186. See Mugda Variyar, *Indonesia Haze Kills Baby, Chokes Several Infants as Forest Fires Burn*, *INT'L BUSINESS TIMES* (Oct. 10, 2015), <http://www.ibtimes.co.in/indonesia-haze-kills-baby-chokes-several-infants-forest-fires-burn-649958#bljbxqQJpQIJozYA.97> [<https://perma.cc/U7B5-MEA5>] (discussing death of baby and several hospitalized infants in Indonesia).

187. See Koplitz et al., *supra* note 184.

188. P. Crippa et al., *Population Exposure to Hazardous Air Quality Due to the 2015 Fires in Equatorial Asia*, 6 *SCIENTIFIC REPORTS* 1 (Nov. 2016), <https://www.nature.com/articles/srep37074.pdf>.

189. *Id.* at 4, Fig.4.

190. See Per Liljas, *Indonesia's Forest-Fire Problem is Nowhere Close to Being Solved. Here's Why*, *TIME* (Dec. 13, 2016 2:41AM), <http://time.com/4562009/indonesia-haze-forest-fires-palm-oil-deforestation/> [<https://perma.cc/F77T-FCJV>] (explaining that due to weather conditions, fires in 2016 were not as bad but relying on weather is no solution).

Domestic Product (GDP).¹⁹¹ This is “more than double the sum spent on rebuilding Aceh after the 2004 tsunami.”¹⁹² Singapore estimates that the 2015 Indonesian fires alone cost Singapore \$700 million dollars.¹⁹³ Going all the way back to 1997, the Indonesian fires cost Malaysia approximately RM 129 million in healthcare expenses.¹⁹⁴ Without question, as CNN reported in a September 2015 article, the annual Indonesian fires are “a global problem with huge economic, health and climate costs.”¹⁹⁵

Once thousands of fires are raging each year, Indonesian officials often claim that they are doing the best that they can to stamp out so many simultaneous fires,¹⁹⁶ falsely suggesting that many of the fires were started naturally.¹⁹⁷ However, numerous commentators have

191. WORLD BANK, *The Cost of Fire: An Economic Analysis of Indonesia's 2015 Fire Crisis*, WORLD BANK GROUP (Feb. 2016), <http://documents.worldbank.org/curated/en/776101467990969768/pdf/103668-BRI-Cost-of-Fires-Knowledge-Note-PUBLIC-ADD-NEW-SERIES-Indonesia-Sustainable-Landscapes-Knowledge-Note.pdf>.

192. Agence France-Presse, *Indonesia Forest Fires Cost Twice as Much as Tsunami Clean-Up, Says World Bank*, THE GUARDIAN (Dec. 15, 2015), <https://www.theguardian.com/environment/2015/dec/15/indonesia-forest-fires-cost-twice-as-much-as-tsunami-clean-up-says-world-bank> [<https://perma.cc/DP5W-JNH9>].

193. Olly Barratt, *Haze Episode Cost Singapore Estimated \$700m Last Year*, CHANNEL NEWS ASIA (Mar. 15, 2016), <http://www.channelnewsasia.com/news/singapore/haze-episode-cost-singapore-estimated-s-700m-last-year-masagos-8147924> [<https://perma.cc/F7W9-26FA>].

194. Md Saidul Islam et al., *Trans-Boundary Haze Pollution in Southeast Asia: Sustainability through Plural Environmental Governance*, 8 SUSTAINABILITY 499 (Marc A. Rosen, ed., May 21, 2016), <http://www.mdpi.com/2071-1050/8/5/499/htm> (citation omitted) [<https://perma.cc/TPL8-72F4>].

195. Georgia McCafferty & Tom Sater, *Indonesia Haze: Why it's Everyone's Problem*, CNN (Sept. 17, 2015), <http://www.cnn.com/2015/09/17/asia/indonesian-haze-southeast-asia-pollution/index.html> [<https://perma.cc/EL9G-7QKF>].

196. See, e.g., Saifulbahri Ismail & Melissa Goh, *Asia Pacific: Six Countries to Help Indonesia Fight Forest Fires*, CHANNEL NEWS ASIA (Oct. 9, 2015), <http://www.channelnewsasia.com/news/asiapacific/six-countries-to-help-indonesia-fight-forest-fires-8235914> [<https://perma.cc/WE83-JMET>] (Governor of South Sumatra stating that “authorities in South Sumatra have done all they can to put out the fires, with help from the army, police and the National Disaster Management Agency”).

197. See, e.g., Andres Chamorro et al., *Exploring Indonesia's Long and Complicated History of Forest Fires*, WORLD RES. INST.: INSIGHTS (Feb. 16, 2017), <http://www.wri.org/blog/2017/02/exploring-indonesias-long-and-complicated->

complained that Indonesia could do much more to prevent the start of so many fires in the first place.¹⁹⁸ Furthermore, Indonesia often has resisted outside assistance, in any given year, once the fires have become widespread.¹⁹⁹ For example, under the ASEAN Agreement on Transboundary Haze Pollution (hereinafter the “AATHP”),²⁰⁰ during the 2015 dry season Indonesia could have requested that the ASEAN Co-ordinating Centre for Transboundary Pollution Control assist it in combatting the thousands of fires ablaze throughout the country.²⁰¹ Instead, Indonesia declined to do so and only requested assistance from Singapore, Malaysia, Russia, China and Australia in October 2015 after insisting for several months that it could handle the situation itself.²⁰²

history-forest-fires [<https://perma.cc/3MKY-AZXX>] (stating that “[n]early all forest fires in Indonesia are human-caused”); Balch, *supra* note 182 (indicating that the fires are intentionally set by large and small operations as a way to clear forests for agricultural production).

198. See, e.g., Erik Meijaard, *No More Fires in Indonesia?*, MONGABAY (June 20 2016), <https://news.mongabay.com/2016/06/no-more-fires-in-indonesia/> [<https://perma.cc/XK4A-GUL2>] (Dr. Hadi Daryanto, the Director General of Social Forestry in the Indonesian Ministry of Environment and Forestry, explained that “there is insufficient government funding to prevent fires . . . fire prevention is not a priority for local-level government at the province or district level . . . and . . . local elites benefit from using fires in land speculation.”).

199. *Indonesia Says It Has Enough Resources to Combat Haze, Declines Help*, ASIA ONE (Oct. 2, 2015), <http://news.asiaone.com/news/singapore/indonesia-says-has-enough-resources-combat-haze-declines-help#sthash.X4efWHqU.dpuf> [<https://perma.cc/ED2U-AJVP>]; Audrey Tan, *Jakarta Again Declines Singapore’s Help to Fight Haze*, THE STRAITS TIMES: ASIA (Sept. 18, 2015 5:00 AM), <http://www.straitstimes.com/singapore/environment/jakarta-again-declines-singapores-help-to-fight-haze> [<https://perma.cc/F6JD-BCAP>].

200. ASEAN Secretariat, ASEAN Agreement on Transboundary Haze Pollution, Oct. 12, 2006, art. 5 § 2 [hereinafter AATHP]. Indonesia finally deposited its instrument of ratification of the AATHP in January of 2015. *Ratification of Asean Haze Agreement a Historic Step in Tackling Problem: Malaysia PM Najib Razak*, THE STRAIT TIMES: ASIA (Sept. 8, 2016), <http://www.straitstimes.com/asia/se-asia/ratification-of-asean-haze-agreement-a-historic-step-in-tackling-problem-malaysia-pm> [<https://perma.cc/63HA-JSG9>] [hereinafter *Ratification of Asean Haze Agreement*].

201. See *Ratification of Asean Haze Agreement*, *supra* note 200.

202. Kanis Dursin, *ASEAN Agreement on Haze? As Clear as Smoke*, INTER PRESS SERV.: ASIA-PACIFIC (Oct. 10, 2015), <http://www.ipsnews.net/2015/10/asean-agreement-on-haze-as-clear-as-smoke/> [<https://perma.cc/JM2L-2D9F>].

In light of Indonesia's inability or unwillingness to control these fires, the governments of nearby countries, such as Singapore, have resorted to drastic measures to protect their own populations. For example, Singapore closed its schools for weeks at a time, advised its residents to stay indoors, and seeded the clouds above its own territories in order to produce rain to diminish the haze over its territories.²⁰³

Since 2015, Indonesia has stepped up its enforcement of its no-burning laws, which carry criminal penalties.²⁰⁴ For example, in August 2016, a three-judge panel ordered the Indonesian company, PT National Sago Prima, to pay a record 1 trillion rupiah (\$107 million) fine for causing the 2015 fires.²⁰⁵

It is too early to assess the effect of Indonesia's new enforcement efforts. However, many commentators do not hold out much hope that the situation will improve dramatically. This is so because Indonesia was the last country to sign and ratify the AATHP,²⁰⁶ the 2015 fire season following Indonesia's ratification of the AATHP was one of the worst on record,²⁰⁷ fires continued to rage during the 2016 and

203. Georgia McCafferty, *Singapore Shuts Schools as Pollution from Indonesian Fires Intensifies*, CNN (Sept. 25, 2015 6:12 AM), <http://www.cnn.com/2015/09/25/asia/singapore-haze-indonesia-schools/> [<https://perma.cc/F8KR-HV5H>].

204. Indonesian Environment Protection Law 32/2009 (specifying land clearing by burning as a criminal offence); Arief Wijaya et al., *After Record-Breaking Fires, Can Indonesia's New Policies Turn Down the Heat?*, WORLD REST. INST. (Sept. 19, 2016), <https://www.wri.org/blog/2016/09/after-record-breaking-fires-can-indonesias-new-policies-turn-down-heat> [<https://perma.cc/2Z5G-TYBD>].

205. Wahyudi Soeriaatmadja, *Indonesia Sago Plantation Company Gets Record \$107 Million Fine for Fires that Caused Haze in 2015*, THE STRAIT TIMES: ASIA (Aug. 12, 2016 3:37 PM), <http://www.straitstimes.com/asia/se-asia/indonesian-sago-plantation-company-gets-record-107-million-fine-for-fires-that-cost> [<https://perma.cc/XAH6-53NX>].

206. Constance Johnson, *ASEAN; Indonesia: Regional Haze Agreement Ratified*, LIBRARY OF CONG.: GLOBAL LEGAL MONITOR (Sept. 22, 2014), <http://www.loc.gov/law/foreign-news/article/asean-indonesia-regional-haze-agreement-ratified/> [<https://perma.cc/UPW8-99LS>].

207. Malcolm Farr & Charis Chang, *NASA Warns of Worst Ever Forest Fires, Environmental Disaster, as Smoke Blankets Six Countries*, NEWS.COM.AU: ENV'T (Oct. 28, 2015, 1:10 PM), <http://www.news.com.au/technology/environment/nasa-warns-of-worst-ever-forest-fires-environmental-disaster-as-smoke-blankets-six-countries/news-story/7dda690a4223f194b2bd5c037cc96221> [<https://perma.cc/E64P-NGSV>].

2017 dry seasons,²⁰⁸ Indonesia's environment minister did not even attend the 12th conference of the parties to the AATHP on August 11, 2016,²⁰⁹ and a number of the companies setting the fires have close relationships with powerful national and local officials.²¹⁰

5. Common Themes of Accidents

In each of the above-described accidents, one or more private companies in one State (the locus State) released one or more pollutants into the air, land or water.²¹¹ The pollutant(s) caused or threatened to cause irreparable harm to the nationals and/or the environment of other States (the target States).²¹² Also, in the immediate aftermath of the accidents, it was not clear that the locus State could ensure that the pollutant(s) would not reach the target States.²¹³ For purposes of this article, a pollutant is defined as an artificial substance, such as a pesticide or PCB, that contaminates air, water, or soil such that humans, animals, or plants are harmed, or a naturally-occurring substance, such as oil, carbon dioxide, or radiation,

208. Joe Sandler Clarke, *Forest Fires Rage Across Indonesia as Dry Season Begins*, UNEARTHED (Aug. 3, 2017), <http://energydesk.greenpeace.org/2017/08/03/indonesia-forest-fires-begin/> [<https://perma.cc/9B9L-3LM3>] (“Satellite images collected by Indonesia’s National Disaster Management Authority showed 170 hotspots in the country at the end of July [2017]”); Huileng Tan, *Singapore Air Quality Worsens Overnight as Indonesia Fire Arrests Jump*, CNBC (Aug. 25, 2016 11:37 PM), <https://www.cnbc.com/2016/08/25/haze-news-singapore-air-quality-worsens-overnight-as-indonesia-fire-arrests-jump.html> [<https://perma.cc/3TVV-GALM>].

209. Trinna Leong, *Asean Countries Agree on Steps to Fight Haze, But Refrain From Pressuring Indonesia*, THE STRAIT TIMES: ASIA (Aug. 11, 2016 2:43 PM), <http://www.straitstimes.com/asia/se-asia/asean-countries-agree-on-steps-to-fight-haze-but-refrain-from-pressuring-indonesia> [<https://perma.cc/M5M9-7FCM>].

210. See, e.g., Patrick Anderson, *Business and Politics in Indonesia’s Expanding Palm Oil Sector*, INSIDE INDON. (July 2, 2014), <http://www.insideindonesia.org/business-and-politics-in-indonesia-s-expanding-palm-oil-sector-4> [<https://perma.cc/JDG8-58WJ>]; McCafferty & Sater, *supra* note 195; Islam et al., *supra* note 194.

211. See *supra* § I.A.

212. See *supra* § I.A.

213. See *supra* § I.A.

that, in a given environment, occurs in a concentration that is harmful for humans, animals or plants.²¹⁴

None of these accidents was caused by a natural disaster, although, with respect to the Fukushima and Indonesian fire disasters, this initially might have appeared to be the case.²¹⁵ In each of the accidents, there were no international safety standards that an international organization could have enforced to prevent the accident, and the direct cause of each of the accidents was a combination of one or more private companies' safety violations and authorities' lax enforcement of national and/or regional safety laws.²¹⁶ Furthermore, the authorities' lax enforcement of safety standards may have been attributable to close relationships between regulatory authorities and the culpable private parties.²¹⁷

In each of these accidents, representatives of the target States generally were not permitted to enter the locus State and visit the accident site or participate in remediation or clean-up activities.²¹⁸ The target States even found it difficult to obtain accurate information regarding the accident and the likelihood that the pollutants in question would reach their borders.²¹⁹ Furthermore, in each of the accidents, the locus State actually declined the great majority of assistance offered to it by other States and international bodies.²²⁰

Unfortunately, history is replete with examples of countries declining offers of outside assistance in the face of an industrial accident or natural disaster.²²¹ In any of those circumstances, the national government often attempts to justify its "go it alone" approach on the international principle of "sovereignty" (in this case, over the

214. *Pollutant*, DICTIONARY.COM, www.dictionary.com/browse/pollutant (last retrieved Aug. 9, 2016).

215. See text accompanying *supra* notes 29-114, 172-210.

216. See *supra* § I.A.

217. See *supra* § I.A.

218. See *supra* § I.A.

219. See *supra* § I.A.

220. See *supra* § I.A.

221. See, e.g., Tyra Ruth Saechao, *Natural Disasters and the Responsibility to Protect*, 32 BROOK. J. INT'L L. 663, 665 (2007) ("The lack of international legal obligations pertaining to disaster response is troubling, particularly when disaster-affected States delay or prevent the provision of relief. . . .").

use of its natural resources).²²² However, as discussed further in Section II of this article, this principle must be tempered against the equally important principle that each country “must not use its natural resources in a manner that will cause harm beyond its borders.”²²³ This balanced approach to the use of natural resources is reflected in numerous multilateral environmental agreements today.²²⁴

In any case, when a national government declines external assistance, typically the government is not concerned with “national sovereignty” but with fear that the population’s support for the government may weaken as a result of contact with foreigners.²²⁵ Other reasons why a State suffering a major environmental disaster might not want to permit foreigners near the accident site are a desire to avoid bad publicity²²⁶ and prevent foreigners from obtaining evidence to support damage claims for injuries suffered by foreign States and nationals.²²⁷

In the case of the toxic red sludge in Hungary, the national government took control of the company that caused the accident, diluted the toxin so that it no longer presented a danger to neighboring

222. See, e.g., Alison McCormick, *From Sovereignty to Responsibility: An Emerging International Norm and Its Call to Action in Burma*, 18 *IND. J. GLOBAL L. STUDIES* 563, 563-64 (2011) (discussing the Government of Myanmar’s refusal to permit delivery of foreign aid to its people following the devastating cyclone Nargis).

223. See *infra* § II.

224. See *infra* § II.

225. See, e.g., ROBERT DAYLEY, *SOUTHEASTERN ASIA IN THE NEW INTERNATIONAL ERA* 69 (Westview Press 2016) (stating that “[f]or one long week following the storm [Cyclone Nargis], Myanmar’s government refused international disaster relief over fears that foreign aid workers would engage in political espionage”).

226. See, e.g., J. MICHAEL COLE, *CONVERGENCE OR CONFLICT IN THE TAIWAN STRAIT: THE ILLUSION OF PEACE?* 74-75 (Routledge 2017).

227. See, e.g., RUWANTISSA ABEYRATNE, *STRATEGIC ISSUES IN AIR TRANSPORT: LEGAL, ECONOMIC AND TECHNICAL ASPECTS* 304, n.50 (Springer 2012) (discussing “blocking legislation” which prevents “private information being demanded and obtained from nationals of a State by another State”); see also Robert V. Percival, *Liability for Global Environmental Harm and the Evolving Relations Between Public and Private Law*, *Environmental Law Workshop*, 1 (May 4, 2010) (stating that “[w]hen harm is caused by pollution originating in another country, it is even more difficult to hold polluters accountable because public international law has yet to create an effective global regime of liability for transboundary pollution . . .”).

countries, and organized clean-up efforts.²²⁸ In the case of the Fukushima disaster in Japan and the Deepwater Horizon oil spill in the U.S., the national government primarily relied on the major culpable private party – TEPCO and BP, respectively - to slow spread of the toxins and conduct clean-up operations.²²⁹ Finally, TEPCO and BP repeatedly downplayed the severity of the accident.²³⁰ In addition, in the case of the annual fires in Indonesia, the Indonesian national government has directed firefighting efforts, but some critics maintain that these efforts are lackluster at best.²³¹

Given the increasing number of major international environmental emergencies around the world and the terrific harm that such emergencies can inflict on foreign populations and environments,²³² the international community needs to implement a workable system for permitting a multilateral force to enter an environmental disaster site to assist in the investigation and remediation of the disaster. While the next section of this article reveals that the U.N. Security Council and a target State currently possess the power to enter a locus State for this reason, at present, entries by both a multilateral force and a target State are problematic.²³³ Moreover, entry by a multilateral force would be preferable.²³⁴ The final section of this article proposes such a workable system.

II. INTERNATIONAL LAW ON MULTILATERAL OR UNILATERAL ENTRY INTO THE LOCUS STATE WITHOUT THE LOCUS STATE'S PERMISSION

This section addresses whether, under current international law, either a target State, or a U.N.-backed multilateral force, could enter a locus State, without its permission, to investigate and then remediate a MIEE. The pivotal provision in the U.N. Charter (UNC) on this question is the prohibition against the threat or use of force contained in Article 2(4).²³⁵ Also relevant are the major international

228. *See supra* § I.A.1.

229. *See supra* §§ I.A.2-I.A.3.

230. *See supra* §§ I.A.2-I.A.3.

231. *See supra* § I.A.4.

232. *See supra* § I.A.

233. *See infra* § II.

234. *See infra* § III; *see also* Knight, *infra* note 322, at 1553-54.

235. U.N. Charter art. 2(4).

environmental laws,²³⁶ Article 2(7) of the UNC,²³⁷ Chapter VII of the UNC,²³⁸ the customary international law principle of self-defense,²³⁹ and Article 51 of the UNC.²⁴⁰ It is the contention of this article that various private property law principles are relevant as well.²⁴¹ The major international environmental laws are discussed first. Then, each of the other legal principles is discussed. This section concludes that, under the proper circumstances, a U.N.-backed multilateral force or a target State could enter a locus State without the locus State's permission to investigate and then remediate a MIEE. However, both types of entry are extremely problematic. Accordingly, a new treaty for handling possible MIEEs is proposed in the final section of this article.

A. Major International Environmental Laws

Customary international law provides that each country possesses the sovereign right to utilize its natural resources as it sees fit.²⁴² This principle is considered a *jus cogens* norm, meaning “a fundamental legal norm[]from which no derogation is permitted.”²⁴³ It also has been reaffirmed in numerous treaties.²⁴⁴ At the same time, this

236. *See infra* § II.A.

237. U.N. Charter art. 2(7).

238. U.N. Charter Ch. VII.

239. *See, e.g.*, U.N. Charter art. 51 (“Nothing in the present Charter shall impair the inherent right of individual or collective self-[defense]. . .”).

240. U.N. Charter art. 51.

241. *See infra* § II.C.2.v.b.

242. *See, e.g.*, G.A. Res. 1803 (XVII), Permanent Sovereignty over Natural Resources (Dec. 14, 1962) (“The right of peoples and nations to permanent sovereignty over their natural wealth and resources must be exercised in the interest of their national development and the well-being of the People of the State concerned.”); *see also* NICO J. SCHRIJVER, *Fifty Years Permanent Sovereignty over Natural Resources: The 1962 UN Declaration as the Opinio Juris Communis*, in PERMANENT SOVEREIGNTY OVER NATURAL RESOURCES 27 (eds. Marc Bungenberg & Stephan Hobe, Springer 2015) (citing Armed Activities on the Territory of the Congo (Dem. Rep. of the Congo v. Uganda), Judgment, I.C.J. Reports 2005, at 168).

243. James A. Green, *Questioning the Peremptory Status of the Prohibition of the Use of Force*, 32 MICH. J. INT'L L. 215, 216 (2011) (quoting Hilary Charlesworth & Christine Chinkin, *The Gender of Jus Cogens*, 15 HUM. RTS. Q. 63, 63 (1993)).

244. SCHRIJVER, *supra* note 242, at 24-26 (discussing several treaties acknowledging this customary international law principle).

principle is tempered by the equally important customary international law principle that no country can utilize its natural resources in a manner that harms either another country or any territory shared in common with all countries (the common heritage of mankind).²⁴⁵ This is known as the “no harm rule.” Numerous multinational and regional environmental treaties acknowledge the balanced approach of these two principles.²⁴⁶ For example, the preamble of the U. N. Framework Convention on Climate Change (the UNFCCC) states that:

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or areas beyond the limits of national jurisdiction.²⁴⁷

Furthermore, the polluter-pays principle (PPP), which provides that a State that harms the environment of another State or the common heritage of mankind is obligated to make reparations for that harm,²⁴⁸ is founded on the “no harm rule.”²⁴⁹ In sum, under current international

245. *See, e.g.*, Michael Murphy, *supra* note 4, at 1187-89 (citing numerous sources, including, for example, the Trail Smelter Arbitration (U.S. v. Can.) (1941), 3 U.N. R.I.A.A. 1938 (1949) and the International Court of Justice’s Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons, Decision, 1996 I.C.J. 226, 241-42).

246. SCHRIJVER, *supra* note 242, at 27.

247. United Nations General Assembly, *Framework Convention on Climate Change*, pmbl., U.N. Doc. A/AC.237/18 (Part II)/Add.1 (May 15, 1992).

248. *See, e.g.*, Jon M. Van Dyke, *Liability and Compensation for Harm Caused by Nuclear Activities*, 35 DENV. J. INT’L L. & POL’Y 13, 18 (2008) (noting that the PPP is codified in the 1992 Rio Declaration on Environment and Development, Principle 16, U.N. Doc. A/CONF.151/26/Rev. 1 (Jan. 1, 1993), which reads: “National authorities should endeavour to promote the internationalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.”).

249. Despite this principle, victims of cross-border pollution rarely receive compensation from the polluter(s) for their injuries due to the “robust and persistent procedural hurdles to transboundary tort litigation. The hurdles include obtaining

environmental law, when an environmental disaster in the locus State harms the environment or nationals of the target State, the locus State generally is violating international law and owes the target State damages for the same.

In addition to the “no harm principle” and the “polluter-pays principle,” two other customary international environmental principles are particularly relevant to this article. These principles are the “precautionary principle” and the “duty to cooperate.”²⁵⁰ The precautionary principle is codified in Principle 15 of the Rio Declaration, which states:

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.²⁵¹

The “duty to cooperate” means that “States are required to cooperate with each other in controlling transboundary pollution and

personal jurisdiction over foreign firms, extraterritorial service of process, the local action rule (which provides that actions in tort for damages to real property must be brought where the property is located), resolving choice of law questions, overcoming motions to dismiss on the grounds of forum non conveniens, deciding whether a defendant’s governmental permit is relevant to its tort liability, and enforcing judgments. For pollution that flows across borders, the locus delicti, or place of the tort, is often hotly disputed. Added to these legal barriers is the practical problem of the expense of bringing suit against a foreign entity and proving its negligence. . . . Together, these legal hurdles form . . . a liability wall – a set of legal barriers that serves to insulate domestic firms from foreign suits over environmental damage.” Noah M. Sach, *Beyond the Liability Wall: Strengthening Tort Remedies in International Environmental Law*, 55 UCLA L. REV. 837, 848-49 (2008) (citations omitted). Furthermore, on account of these procedural hurdles, “[m]ore than a dozen civil liability treaties have been negotiated that create causes of action and prescribe liability rules, but few have entered into force, and most remain unadopted orphans in international environmental law.” *Id.* at 837.

250. Van Dyke, *supra* note 248, at 18-23.

251. Conference on Environment and Development, *Rio Declaration on Environment and Development*, A/CONF.151/26 (Vol. 1), Principle 25 (Aug. 12, 1992) [hereinafter Rio Declaration].

environmental risks.”²⁵² Principle 24 of the Stockholm Declaration articulates this principle as follows:

International matters concerning the protection and improvement of the environment should be handled in a cooperative spirit by all countries, big and small, on an equal footing. Cooperation through unilateral or bilateral arrangements or other appropriate means is essential to effectively control, prevent, reduce and eliminate adverse environmental effects resulting from activities conducted in all spheres, in such a way that due account is taken of the sovereignty and interests of all States.²⁵³

“The duty to [cooperate] . . . includes the duty to notify other affected countries, the duty to exchange information, the duty to listen to the concerns of affected countries, the duty to respond to these concerns, and the duty to negotiate in good faith.”²⁵⁴ Both the precautionary principle and the duty to cooperate principle are incorporated in numerous international treaties.²⁵⁵

B. Prohibition Against Threat or Use Force; Prohibition Against Interference in Domestic Affairs of Any State

Following the horrendous loss of life in World War II, the primary motivation for establishment of the U.N. was the maintenance of international peace.²⁵⁶ The League of Nations, which had been established following World War I²⁵⁷ and only permitted the League

252. Van Dyke, *supra* note 248, at 21-21 (quoting Alan E. Boyle, *Nuclear Energy and International Law: An Environmental Perspective*, 60 BRIT. Y.B. INT’L L. 257, 278 (1990)).

253. U.N. Conference on the Human Environment, June 5-16, 1972, Declaration of Principles, Principle 24, U.N. Doc. A/CONF.48/14 (June 16, 1972).

254. Van Dyke, *supra* note 248, at 21.

255. Van Dyke, *supra* note 248, at 19 (discussing the precautionary principle), 21 (discussing the duty to cooperate).

256. *See, e.g.*, Anna M. Vradenburgh, *The Chapter VII Powers of the United Nations Charter: Do They Trump Human Rights Law*, 14 LOY. L.A. INT’L & COMP. L.J. 175, 181 (citing several sources).

257. Treaty of Versailles, 225 Parry 188; 2 Bevens 235; 13 AJIL Supp. 151, 385 (1919) arts. 1-26; *see also* The League of Nations, 1920, U.S. Dep’t of State, Office

of Nations Council to recommend, rather than order, that States take specific actions to restore peace,²⁵⁸ clearly had failed to prevent another world war.²⁵⁹ Accordingly, the negotiators of the UNC decided to grant the U.N. Security Council tremendous power to actively prevent and stop future armed conflicts between sovereign States.²⁶⁰

The primary mechanism included in the UNC for maintaining the peace between member States is Article 2(4),²⁶¹ which reads:

All members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations.²⁶²

This general prohibition against the use of force applies to the U.N. itself.²⁶³

of the Historian, Bureau of Public Affairs, <https://history.state.gov/milestones/1914-1920/league> (last visited Aug. 5, 2017).

258. *See, e.g.*, ANTHONY CLARK AREND & ROBERT J. BECK, *INTERNATIONAL LAW AND THE USE OF FORCE BEYOND THE UN CHARTER PARADIGM* 49 (Routledge 1993).

259. *See, e.g.*, Duncan Wilson & Elizabeth Wilson, *FEDERATION AND WORLD ORDER* 24 (Thomas Nelson and Sons Ltd. 1939).

260. *See, e.g.*, Wolfgang Weiß, *Security Council Powers and the Exigencies of Justice after War*, in *Y.B. U.N. L.* 12, at 50 (Koninklijke Brill N.V. 2008); *see also* Jared Schott, *Chapter VII as Exception: Security Council Action and the Regulative Ideal of Emergency*, 6 *N.W. J. INT. HUMAN RIGHTS* 24, 54, 63-66, 77 (2008) (noting that courts have recognized the Security Council's "myriad implied powers", the ICJ possesses no general or plenary power to review the Security Council's Chapter VII resolutions, the ICJ has been deferential in reviewing the Security Council's Chapter VII resolutions, and judicial review of Security Council's Chapter VII resolutions in general has been very weak).

261. *See, e.g.*, *Armed Activities on the Territory of the Congo (Dem. Rep. of Congo v. Uganda)*, Judgment, 2005 *I.C.J. Rep.* 168 ¶ 148 (Dec. 19) (referring to Article 2(4) as the "cornerstone of the United Nations Charter"); Diane Desierto, *NECESSITY AND NATIONAL EMERGENCY CLAUSES: SOVEREIGNTY IN MODERN TREATY INTERPRETATION* 285 (Martinus Nijhoff Publishers 2012) (stating that Article 2(4) is the "linchpin prohibition against the use of force").

262. U.N. Charter art. 2(4).

263. U.N. Charter art. 42 (the Security Council can authorize the use of force only after determining that measures not involving the use of force under Article 41 "would be inadequate or have proved to be inadequate").

Closely related to Article 2(4) of the UNC is Article 2(7) of the UNC, which reads:

Nothing contained in the present Charter shall authorize the United Nations to intervene in matters which are essentially within the domestic jurisdiction of any state or shall require the Members to submit such matters to settlement under the present Charter. . . .²⁶⁴

This principle of non-intervention in the domestic affairs of any State has been interpreted to apply to individual States, as well as the U.N. as a whole.²⁶⁵ While both the prohibition against the threat or use of force and the prohibition against the intervention in the domestic affairs of any State are codified in the UNC (and in many other treaties²⁶⁶), they also are long-established principles of customary

264. U.N. Charter art. 2(7).

265. *See, e.g.*, U.N. General Assembly Declaration on Principles of International Law concerning Friendly Relations and Co-operation among States in accordance with the Charter of the United Nations, GA/RES/25/2625, adopted October 24, 1970 [hereinafter Declaration on Friendly Relations] (“No State or group of States has the right to intervene, directly or indirectly, for any reason whatever, in the internal or external affairs of any other State”); *Concerning Military and Paramilitary Activities in and against Nicaragua* (Nicar. v. U.S.), Judgment, 1986, I.C.J. Rep., 14, ¶ 202 (27 June) (ICJ stating that the non-intervention principle is a corollary of the principle of the sovereign equality of States) [hereinafter *Nicaragua Case*]; *see also* Sir Michael Wood, *The Principle Of Non-Intervention In Contemporary International Law*, CHATHAM HOUSE, Feb. 27, 2007 (“While not expressly set out in the UN Charter, it is generally held to be implicit in various of its provisions, in particular the principle of the sovereign equality of States (Article 2.1).”), <http://studylib.net/doc/8433936/the-principle-of-non-intervention-in> (last visited Aug. 5, 2017); Philip Kunig, Prohibition of Intervention, MAX PLANCK ENCYCLOPEDIA OF PUBLIC INTERNATIONAL LAW, Apr. 2008, <http://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e1434> (last visited Aug. 5, 2017) (“Concerning inter-State relations, the non-intervention principle is not mentioned as such in the UN Charter. It can, however, implicitly be drawn from it as the corresponding duty to the principle of State sovereignty in art. 2(1) UN Charter.”).

266. *See, e.g.*, Charter of the Organization of American States, arts.16, 18, 19; Constitutive Act of the African Union, art. 4; Treaty of Friendship, Co-operation and Mutual Assistance, art. 1(2).

international law. The prohibition against the threat or use of force enjoys the status of *jus cogens*.²⁶⁷

The distinction between “the threat or use of force,” on the one hand, and “intervention in the domestic affairs of a State,” on the other hand, is very important for this article. As discussed further below, if a target State’s entry into a locus State without permission does not constitute a “threat or use of force,” that entry might be justified as a proportionate intervention in response to the locus State’s intervention in affairs of the target State by virtue of the environmental emergency.²⁶⁸ On the other hand, if such an entry into the locus State by a target State constitutes a “threat or use of force,” that entry arguably is legal only if the environmental emergency in the locus State is considered an “armed attack.”²⁶⁹

The Charter does not define either “threat or use of force” in Article 2(4) or “non-intervention” in Article 2(7). However, the U.N. General Assembly’s Declaration on Principles of International Law concerning Friendly Relations and Co-operation among States in accordance with the Charter of the United Nations (“Declaration on Friendly Relations”)²⁷⁰ is considered to be an authoritative expression of the customary international law regarding these phrases.²⁷¹ While the

267. See *Nicaragua Case*, *supra* note 265, at ¶ 190 (prohibition against threat or use of force), ¶ 202 (non-intervention in a State’s domestic affairs), ¶ 190 (noting that the International Law Commission had expressed the view that “the law of the Charter concerning the prohibition of the use of force in itself constitutes a conspicuous example of a rule in international law having the character of *jus cogens*”) (citation omitted); Christian J. Tams, *The Use of Force against Terrorists*, 20 E. J. INT’L L. 359, 359 (2009); see also Green, *supra* note 243, at 216 (questioning the peremptory nature of the prohibition against the threat or use of force but conceding that “an overwhelming majority of scholars view the prohibition as having a peremptory character”).

268. See text accompanying *infra* notes 300-301.

269. As discussed further below, Article 51 of the UNC requires an armed attack before a State can threaten or use force against another State. It is possible that the customary international law principle of self-defense likewise contains such a requirement. See *infra* § II.C.2.i-iii.

270. Declaration on Friendly Relations, *supra* note 265.

271. *Nicaragua Case*, *supra* note 265, at 188-202 (stating that the U.N. members’ adoption of the text of the Declaration on Friendly Relations indicates their belief that the prohibition against the threat or use of force and the prohibition against intervention in the domestic affairs of another State are *opinion juris* (or legally binding)); see also C. Don Johnson, *Toward Self-Determination – A Reappraisal As*

Declaration on Friendly Relations likewise does not provide a definition of either phrase, it lists specific actions that fall within each category. For example, the Declaration on Friendly Relations states that the following, among others, constitute “threats or uses of force:”

[T]he threat or use of force to violate the existing international boundaries of another State or as a means of solving international disputes, including territorial disputes and problems concerning frontiers of States. . . .

[A]cts of reprisal involving the use of force. . . .

[A]ny forcible action which deprives peoples . . . of their right to self-determination and freedom and independence. . . .

[O]rganizing or encouraging the organization of irregular forces or armed bands including mercenaries, for incursion into the territory of another State. . . .

[O]rganizing, instigating, assisting or participating in acts of civil strife or terrorist acts in another State or acquiescing in organized activities within . . . [the] territory of another State] directed toward the commission of such acts, when the acts referred to . . . involve a threat or use of force. . . .

[M]ilitary occupation resulting from the use of force. . . .

The territory of a State shall not be the object of acquisition by another State resulting from the threat or use of force. No territorial acquisition resulting from the threat or use of force shall be recognized as legal. . . .²⁷²

Reflected In The Declaration On Friendly Relations, 3 GA. J. INT’L & COMP. L. 145, 146 (1973) (noting that the Chairman of the Sixth Committee of the U.N. General Assembly, in the General Assembly’s 25th Session, referred to the Declaration on Friendly Relations as “the greatest [document] since the Charter of the United Nations itself”); Michael Wood, *International Law and the Use of Force: What Happens in Practice?*, 53 INDIAN J. INT’L LAW 345, 351-52 (2013) (referring to the Declaration on Friendly Relations as a “consensus resolution” of the U.N. General Assembly). Note that, in order for a principle to constitute customary international law, it must be generally followed by States and furthermore States must consider it to be a legally binding principle, or *opinio juris*. See United Nations, *Statute of the International Court of Justice*, art. 38(1)(b), 18 April 1946, <http://www.refworld.org/docid/3deb4b9c0.html> (last visited Aug. 5, 2017).

272. Declaration on Friendly Relations, *supra* note 265.

In contrast, the Declaration on Friendly Relations lists the following as examples of “intervention in the domestic affairs of a State,” among others:

[Intervention] directly or indirectly, for any reason whatever, in the internal or external affairs of any other State. Consequently, armed intervention and all other forms of interference or attempted threats against the personality of the State or against its political, economic or cultural elements, are in violation of international law. . . .

[The] use or encourage[ment of] the use of economic political or any other type of measures to coerce another State in order to obtain from it the subordination of the exercise of its sovereign rights and to secure advantages of any kind.

Also, no State shall organize, assist, foment, finance, incite or tolerate subversive, terrorist or armed activities directed towards the violent overthrow of the regime of another State, or interference in civil strife in another State.

The use of force to deprive peoples of their national identity. . . . Every State has an inalienable right to choose its political, economic, social and cultural systems, without interference in any form by another State.²⁷³

As indicated, the above examples in the Declaration on Friendly Relations suggest that the prohibition against a threat or use of force in international law refers to a threat or use of force regarding a State’s territorial integrity or political independence. On the other hand, the above examples in the Declaration on Friendly Relations indicate that the prohibition against intervention in the domestic affairs of another State prohibits not only such threats or uses of force but also any interference whatsoever with a State’s physical boundaries or political independence.

273. Declaration on Friendly Relations, *supra* note 265.

The ICJ's opinion in *The Nicaragua Case*²⁷⁴ confirms this distinction between the two principles.²⁷⁵ In *The Nicaragua Case*, Nicaragua sued the U.S., claiming that a wide range of U.S. actions against Nicaragua violated international law.²⁷⁶ The main U.S. activities about which Nicaragua complained included the laying of mines in Nicaragua's harbors and territorial seas,²⁷⁷ attacks on a number of Nicaragua's ports, oil installations, and a naval base,²⁷⁸ the funding, arming, and training of the *Contras*,²⁷⁹ and implementation of a trade embargo against Nicaragua, denial of economic assistance to Nicaragua, and reduction in the U.S. sugar quota for Nicaragua.²⁸⁰

The U.S., in turn, claimed that all of its actions were justified by Nicaragua's provision of arms to rebel forces in El Salvador and Nicaragua's military incursions into Costa Rica and Honduras.²⁸¹ Specifically, the U.S. claimed that El Salvador, Costa Rica, and Honduras had considered Nicaragua's activities to constitute illegal aggression and had requested that the U.S. defend them against this aggression, in accordance with the customary international law principle of self-defense and the collective defense pact contained in the Inter-American Treaty of Reciprocal Assistance (the Inter-American Treaty).²⁸²

274. *Nicaragua Case*, *supra* note 265, at ¶ 15.

275. *Nicaragua Case*, *supra* note 265, at ¶ 205 (meaning of prohibition against intervention in domestic affairs of a State), ¶ 227 (meaning of prohibition against threat or use of force).

276. *Nicaragua Case*, *supra* note 265, at ¶ 15.

277. *Nicaragua Case*, *supra* note 265, at ¶ 215.

278. *Nicaragua Case*, *supra* note 265, at ¶¶ 81, 86, 118, 227, 118.

279. *Nicaragua Case*, *supra* note 265, at ¶¶ 95-99, 228.

280. *Nicaragua Case*, *supra* note 265, at ¶¶ 22, 244. The Government of Nicaragua also had claimed that the U.S. Government had injured, killed, and kidnapped a number of Nicaraguans. *Nicaragua Case*, *supra* note 265, at ¶¶ 113, 216. However, the ICJ found that, even if the *Contras* had committed such crimes, the Government of Nicaragua had not met its burden of proving that the Government of the U.S. had had "effective control" over the *Contras*' actions so as to render such crimes imputable to the Government of the U.S. *Nicaragua Case*, *supra* note 265, at ¶¶ 113-116, 216.

281. *Nicaragua Case*, *supra* note 265, at ¶¶ 19, 129-130, 164-165, 248.

282. *Nicaragua Case*, *supra* note 265, at ¶¶ 126, 211. It is noteworthy that the U.S. did not rely on the right of collective defense contained in Article 51 of the UNC or Article 21 of Charter of the Organization of American States (OAS and Charter of the OAS). *Nicaragua Case*, *supra* note 265, at ¶¶ 24, 56. This is because the U.S.,

In discussing the meaning of the customary international prohibitions against intervention and against the threat or use of force (the essence of which are incorporated into Articles 2(4) and 2(7) of the UNC, according to the ICJ²⁸³), the ICJ stated that both of these prohibitions are “closely linked” with the principle of respect for State sovereignty.²⁸⁴ The ICJ went on to emphasize that “the principle of non-intervention involves the right of every sovereign State to conduct its affairs without outside interference. . . . ‘Between independent States, respect for territorial sovereignty is an essential foundation of international relations.’”²⁸⁵ The ICJ further clarified that the prohibition against intervention:

forbids all States or groups of States to intervene directly or indirectly in internal or external affairs of other States. A prohibited intervention must accordingly be one bearing on matters in which each State is permitted, by the principle of State sovereignty, to decide freely. One of these is the choice of a political, economic, social and cultural system, and the formulation of foreign policy. Intervention is wrongful when it uses methods of coercion in regard to such choices, which must remain free ones. . . . The element of coercion . . . defines, and indeed forms the very essence of prohibited intervention.²⁸⁶

when it had acceded to the Statute of the ICJ, had filed a reservation denying, with few exceptions, the ICJ’s jurisdiction to decide disputes under multilateral treaties such as the UNC and the Charter of the OAS. *Nicaragua Case*, *supra* note 265, at ¶¶ 56, 173-175, 292. The U.S.’ acceptance of jurisdiction of the International Court of Justice on August 26, 1946, made pursuant to Article 36, paragraph 2 of the Statute of the Court, contained “a proviso [c] excluding from its application: ‘disputes arising under a multilateral treaty, unless (1) all parties to the treaty affected by the decision are also parties to the case before the Court, or (2) the United States of America specially agrees to jurisdiction.’” *Nicaragua Case*, *supra* note 265, at ¶ 42.

283. *Nicaragua Case*, *supra* note 265, at ¶¶ 187-190, 202-214.

284. *Nicaragua Case*, *supra* note 265, at ¶ 212.

285. *Nicaragua Case*, *supra* note 265, at ¶ 202 (quoting *Corfu Channel* (U.K. v. Alb.), Judgment (Merits), 1949 I.C.J. Rep. 35 (9 Apr.) [hereinafter *Corfu Channel Case*]).

286. *Nicaragua Case*, *supra* note 265, at ¶ 205.

A prohibited threat or use of force under customary international law is a prohibited intervention in the domestic affairs of another State, as a threat or use of force constitutes the coercion which is a necessary component of an illegal intervention.²⁸⁷ In other words, an act which violates the prohibition against a threat or use of force by definition likewise violates the prohibition against intervention in the domestic affairs of another State.²⁸⁸ The ICJ also pointed out that not every use of force constitutes an “armed attack.”²⁸⁹ As explained further below, a use of force must be of sufficient “scale and effects” to constitute an armed attack.²⁹⁰ Examples of armed attacks include, but are not limited to, action by regular armed forces across an international border as well as the sending by one State of irregular forces “to carry out acts of armed force against another State of such gravity as to amount to . . . an actual armed attack conducted by regular forces[.]”²⁹¹ The ICJ, relying on the Declaration on Friendly Relations, noted that an example of a prohibited threat or use of force that does not constitute an armed attack is a threat or use of force to violate the existing international boundaries of another State.²⁹²

In *The Nicaragua Case*, the ICJ held that a State, when it has been the target of illegal intervention, possesses a right to proportionately intervene in the domestic affairs of the aggressor State.²⁹³ At the same time, the ICJ concluded that this right of proportionate, retaliatory intervention was unavailable to the U.S. in the instant case, because this right does not extend to a third party justifying its actions under the principle of collective self-defense.²⁹⁴ The ICJ also held that Nicaragua had not proven that the U.S. trade embargo, denial of economic aid, or reduction in the U.S. sugar quota for Nicaragua had violated any international law.²⁹⁵ In particular, the ICJ noted, there could be a number of legal justifications for such U.S. actions and typically the legality of such actions is determined by other

287. *Nicaragua Case*, *supra* note 265, at ¶ 205.

288. *Nicaragua Case*, *supra* note 265, at ¶ 205.

289. *Nicaragua Case*, *supra* note 265, at ¶¶ 191, 195.

290. *Nicaragua Case*, *supra* note 265, at ¶ 195.

291. *Nicaragua Case*, *supra* note 265, at ¶ 195.

292. *Nicaragua Case*, *supra* note 265, at ¶ 191.

293. *Nicaragua Case*, *supra* note 265, at ¶ 248.

294. *Nicaragua Case*, *supra* note 265, at ¶ 249.

295. *Nicaragua Case*, *supra* note 265, at ¶¶ 123-125, 244-245.

organizations (e.g., General Agreement on Tariff and Trade (GATT) dispute panels) to which the ICJ defers on such questions.²⁹⁶

On the other hand, the ICJ held that all of the remaining U.S. actions against Nicaragua, including its provision of funding to the *Contras* (apart from its provision of humanitarian aid after October 1, 1984), had violated the customary international law prohibition against intervention in the domestic affairs of another State.²⁹⁷ Furthermore, the Court held that the U.S.' laying of mines in Nicaragua's harbors and territorial seas, attacks on Nicaragua's ports, oil installations, and naval base, and arming and training of the *Contras* had violated the customary international law prohibition against the threat or use of force.²⁹⁸ Significantly, the ICJ held that the U.S. funding of the *Contras* was only an illegal intervention into Nicaragua's affairs, while the arming and training of the *Contras* constituted an illegal threat or use of force against Nicaragua. Finally, the ICJ held that none of the U.S.' actions could be justified under the collective defense provision of the Inter-American Treaty or the customary international law principle of self-defense.²⁹⁹

Applying the above law to the legality of a target State's entry into a locus State to investigate and possibly remediate an environmental emergency over the locus State's objection, some scholars argue that such an entry may not rise to the level of a threat or use of force.³⁰⁰ Such an entry would then constitute only an intervention in the domestic affairs of the locus State, and, as such, could be justified as a proportionate response to the locus State's interference in the domestic affairs of the target State caused by the environmental emergency.³⁰¹

For example, some scholars maintain that Article 2(4) of the UNC forbids only the threat or use of force undertaken specifically for the purpose of attacking "the territorial integrity or political independence of [the] . . . state."³⁰² To be sure, the plain language of Article 2(4)

296. *Nicaragua Case*, *supra* note 265, at ¶¶ 123-125, 244-245.

297. *Nicaragua Case*, *supra* note 265, at ¶ 238 (funding).

298. *Nicaragua Case*, *supra* note 265, at ¶¶ 227-228, 238.

299. *Nicaragua Case*, *supra* note 265, at ¶ 238. The ICJ's opinion regarding the U.S.' self-defense claim is further discussed below. *See infra* § II.C.2.i.

300. *See, e.g.*, Michael Murphy, *supra* note 4, at 1215.

301. *See Nicaragua Case*, *supra* note 265, at ¶¶ 10, 210, 249.

302. *See, e.g.*, Murphy, *supra* note 4, at 1215.

suggests as much.³⁰³ If this is a correct interpretation of the scope of Article 2(4) (and the customary international prohibition against the use or threat of force), then a target State's entry into the locus State arguably would not constitute a threat or use of force because that entry would not be for the specific purpose of attacking the locus State's territorial integrity or political independence. Rather, the target State would be entering the locus State to investigate the environmental emergency and possibly remediate it.³⁰⁴

However, most scholars today conclude that any threat or use of force against a State necessarily violates that state's territorial integrity or political independence and therefore the reference to a State's territorial integrity or political independence in UNC Article 2(4) does not serve to exclude any category of threats or uses of force.³⁰⁵ The ICJ's opinion in *The Corfu Channel* case³⁰⁶ supports this view. In *The Corfu Channel Case*, the ICJ held that the British Navy's minesweeping of the Corfu Channel, located in the territorial waters of Albania, violated the prohibition against force in Article 2(4) of the UNC,³⁰⁷ when Albania had specifically denied Britain permission to conduct that operation.³⁰⁸ Given that Britain had conducted the minesweeping operation for the purpose of ensuring safe passage to ships traveling through the channel, and not for the purpose of acquiring any Albanian territory or interfering with Albania's political regime,³⁰⁹ the ICJ's holding suggests that reference to "territorial integrity and political independence" in Article 2(4) essentially is mere surplusage that can safely be ignored.³¹⁰ Therefore, a target State's entry into the locus State might still be considered a threat or use of force even in the absence of interference with the territorial integrity or political independence of the locus State.

303. See text accompanying *supra* notes 261-264.

304. See, e.g., Murphy, *supra* note 4, at 1215.

305. See, e.g., Murray Colin Alder, *THE INHERENT RIGHT OF SELF-DEFENCE IN INTERNATIONAL LAW* 77 (Springer 2012) (citations omitted).

306. *Corfu Channel Case*, *supra* note 285.

307. *Corfu Channel Case*, *supra* note 285, at ¶¶ 34-35.

308. *Corfu Channel Case*, *supra* note 285, at ¶ 33.

309. *Corfu Channel Case*, *supra* note 285, at ¶¶ 34-35.

310. See, e.g., Müge Kinacıoğlu, *The Principle of Non-intervention at the United Nations: The Charter Framework and the Legal Debate*, Perceptions, Summer 2005, 15, at 22 (citing *Corfu Channel Case*, *supra* note 285, at ¶ 35), <http://sam.gov.tr/wp-content/uploads/2012/01/Muge-Kinacioglu.pdf>.

Moreover, entry into the locus State by a multilateral force or a target State would seem to necessarily carry at least the threat of force against the locus State in the event that the locus State resisted such entry. Certainly, entry into the locus State, without the locus State's permission, would seem to "violate the existing international boundaries" of the locus State, which the Declaration on Friendly Relations lists as an example of a "threat or use of force."³¹¹ Similarly, the occupation of the emergency site by a multilateral force or target State for the purpose of investigating the emergency and remediating it, if necessary, likewise may constitute a threat of force in the event that the locus State attempted to force the interloper to leave the emergency site. Accordingly, such an occupation of the emergency site could be described as a "military occupation resulting from the use of force," another example of a "threat or use of force" provided in the Declaration on Friendly Relations.³¹²

Finally, the entry into a locus State without the locus State's permission by a multilateral force or target State seems more akin to the U.S.' laying of mines, attacks on Nicaragua's ports, oil installations, and a naval base, and arming and training of the *Contras*, than to the U.S.' funding of the *Contras*. The ICJ in *The Nicaragua Case* held that the former actions constituted threats or uses of force against Nicaragua, while the latter action constituted an intervention in the domestic affairs of Nicaragua. Thus, *The Nicaragua Case* likewise supports the conclusion that entry into the locus State without the locus State's permission would constitute a threat or use of force.

For all of these reasons, entry by a multilateral force or a target State into the locus State without the locus State's permission most likely would constitute a threat or use of force against the locus State. The next section of this article addresses whether such a threat or use of force could be justified under current international law.

C. The Entry into a Locus State of a U.N.-Backed Multilateral Force or a Target State Without the Locus State's Permission Most Likely Would be Justified under the U.N. Charter

There are two major exceptions to the prohibition against a threat or use of force against a sovereign state: a multilateral use of force

311. See text accompanying *supra* notes 270-272.

312. See text accompanying *supra* notes 270-272.

authorized by the U.N. Security Council under its UNC Chapter VII powers and a unilateral use of force exercised pursuant to the international principle of collective or self-defense codified in Article 51 of the UNC.³¹³ Specifically, in the case of a MIEE, the U.N. Security Council almost certainly could authorize a multilateral force to enter the locus State, even over the locus State's objection, in order to investigate and then remediate a MIEE. Such an authorization would be legal so long as the U.N. Security Council followed the procedures for enforcement actions set forth in Chapter VII of the United Nations Charter. Second, a target State's entry into a locus State, without the locus State's permission, most likely could be justified under the international legal principle of self-defense. Each of these is discussed further below.

1. Entry of a Multilateral Force

The UNC negotiators granted the U.N. Security Council, in Chapter VII of the UNC, tremendous power to prevent and stop international conflicts.³¹⁴ They did this by granting the Security Council unlimited discretion to determine whether any particular situation constitutes a breach of the peace, threat to the peace, or an act of aggression.³¹⁵ Whenever the Security Council answers that question in the affirmative, it has very broad discretion to decide whether to employ armed force or other measures in order to maintain or restore peace.³¹⁶ Specifically, Article 39 of the UNC provides that the Security Council:

shall determine the existence of any threat to the peace, breach of the peace, or act of aggression . . . and shall . . . decide what measures shall be taken in accordance with

313. See, e.g., Desierto, *supra* note 261, at 285; Tams, *supra* note 267, at 360.

314. See, e.g., H. Karsten Schmidt, *The Charter of the United Nations: An Instrument to Re-Establish International Peace and Security?*, 33 *IND. L. J.* 322, 322-23 (1958); Schott, *supra* note 260, at 38.

315. *Id.*

316. See GEOFFREY S. CORN ET AL., *THE LAW OF ARMED CONFLICT: AN OPERATIONAL APPROACH* 10-11 (Wolters Kluwer 2014); AREND & BECK, *supra* note 258, at 49.

Articles 41 and 42 to maintain or restore international peace and security.³¹⁷

In the event that the Security Council determines that a situation constitutes a threat to peace, a breach of the peace or an act of aggression, Article 41 then authorizes the Security Council to order U.N. members to take any measures not involving armed force to resolve the situation.³¹⁸ Such measures could include “complete or partial interruption of economics relations and of rail, sea, air, postal, telegraphic, radio and other means of communication, and the severance of diplomatic relations.”³¹⁹ If such measures have proven to be inadequate or the Security Council believes that they would be inadequate, the Council then can authorize armed forces to maintain or restore order.³²⁰ The measures listed in both Article 41 and 42 are non-exhaustive.³²¹

During the UNC negotiations, the negotiators considered defining the terms “threat to peace,” “breach of peace,” and “act of aggression,” but they purposefully left these terms undefined in order to provide the Security Council with even greater discretion.³²² In addition, they considered providing the U.N. General Assembly with veto power over the Security Council’s exercise of its Chapter VII powers, but they ultimately decided not to include such a check on the Security Council’s power.³²³ Similarly, they rejected the option of having the

317. U.N. Charter art. 39.

318. U.N. Charter art. 41.

319. *Id.*

320. U.N. Charter art. 42.

321. Schott, *supra* note 260, at 52; CORN ET AL., *supra* note 316, at 10.

322. *See, e.g.*, Alexandra Knight, *Global Environmental Threats: Can the Security Council Protect Our Earth?*, 80 N.Y.U. L. REV. 1549, 1569, n.97 (citing David Schweigman, THE AUTHORITY OF THE SECURITY COUNCIL UNDER CHAPTER VII OF THE UN CHARTER: LEGAL LIMITS AND THE ROLE OF THE INTERNATIONAL COURT OF JUSTICE 34 (2001); Schmidt, *supra* note 314, at 322- 323; Schott, *supra* note 260, at 36; Eric Rosand, *The Security Council As “Global Legislator”*: *Ultra Vires or Ultra Innovative?*, 28 FORDHAM INT’L L. J. 542, 554, n.52 (2004).

323. *See, e.g.*, Anna M. Vrandenburgh, *The Chapter VII Powers of the United Nations Charter: Do They Trump Human Rights Law*, 14 LOY. L.A. INT’L & COMP. L. REV. 175, 178 (1991); *see also* Schott, *supra* note 260, at 38 (“The U.N.’s other organs have little in the way of legally-ordained recourse in checking Council action under Article 39.”).

ICJ possess plenary power to review the Security Council's Chapter VII resolutions.³²⁴ Without question, the negotiators did not want to hamper the Security Council's ability to maintain international peace.³²⁵

For several years following the establishment of the U.N. in 1945, the Security Council rarely exercised its Chapter VII powers, given the Cold War and the ability of the U.S. and the Soviet Union as permanent members of the Security Council to use their veto power to check each other.³²⁶ Following the end of the Cold War, however, the Security Council has utilized its Chapter VII powers extensively.³²⁷ For example, "[i]n the first forty-four years of the Council's existence, '[twenty-four] Security Council resolutions cited or used the terms of Chapter VII; by 1992 it was adopting that many such resolutions every year.' In 2005, this number rose to thirty-nine. In 2006, no fewer than forty-two Council resolutions cited Chapter VII."³²⁸

To date, the Security Council has only very rarely declared a situation to constitute an "act of aggression"³²⁹ or a "breach of the

324. *BEYOND SOVEREIGNTY: COLLECTIVELY DEFENDING DEMOCRACY IN THE AMERICAS* 38 (Tom Farer, ed. The John Hopkins U. Press 1996); Schott, *supra* note 260, at 39, n.97, 63-64.

325. *See, e.g.*, Linda Malone, *Discussion in the Security Council on Environmental Intervention in the Ukraine*, 27 *LOYOLA OF L.A. L. REV.* 893, 904 (1994) [hereinafter Malone, *Discussion*]; Vrandenburgh, *supra* note 323, at 178.

326. AREND & BECK, *supra* note 258, at 52; Joy Gordon, *The United Nations Security Council and the Emerging Crisis of Legitimacy*, 9 *YALE J. INT'L AFF.* 40, 40 (2014).

327. *See, e.g.*, David Bosco, *Assessing the UN Security Council: A Concert Perspective*, 20 *GLOBAL GOVERNANCE* 545, 545-546 (2014); David Malone, *DECISION-MAKING IN THE U.N. SECURITY COUNCIL: THE CASE OF HAITI, 1990-1997*, 7-36 (Clarendon Press 1998) [hereinafter David Malone].

328. Schott, *supra* note 260, at 46.

329. *See, e.g.*, AREND & BECK, *supra* note 258, at 48; Simon Chesterman, *JUST WAR OR JUST PEACE?* 114 (Oxford U. Press 2003) (citing the armed attacks and other hostilities committed by Israel against the Palestinian Liberation Organization in Tunisia in 1985 and 1988; the armed invasion and other hostilities committed by South Africa against Angola in 1976 and 1985 and against Botswana in 1985; and the armed invasion and other hostile acts committed by the illegal minority regime in Southern Rhodesia against the Republic of Zambia in 1979).

peace.”³³⁰ Accordingly, whenever the Security Council has ordered that measures be taken pursuant to Article 41 or 42, it has almost always first declared that the situation in question constituted a “threat to peace.”³³¹

The Security Council may prefer not to describe an aggressor State’s act as a “breach of the peace” or an “act of aggression,” because doing so could then make it difficult for the Council to act as an impartial arbiter in the dispute.³³² It is also possible that the Security Council encourages States to aggressively report threats to peace because threats to peace are easier to resolve than breaches of the peace or acts of aggression, and accordingly the Security Council declares many more threats to peace than acts of aggression or breaches of the peace.³³³

330. Chesterman, *supra* note 329, at 114 (citing North Korea’s armed attack on South Korea in 1950; Argentina’s armed invasion of the Falkland Islands in 1982; and the armed conflict between Iran and Iraq in 1987).

331. *See, e.g.*, James Sloan, *The Peacekeeping Powers of the Security Council and the Limitations Thereupon*, in *THE MILITARISATION OF PEACEKEEPING IN THE TWENTY-FIRST CENTURY*, § 3.2.1 (Powers under Art. 39) (Hart Publishing 2011) (“Among the three triggering events, threats to the peace have been found to exist by the Security Council far more frequently than breaches of the peace or acts of aggression. . . .”); *See also* REPERTOIRE: OF THE PRACTICE OF THE SECURITY COUNCIL, *Actions with Respect to Threats to the Peace, Breaches of the Peace, and Acts of Aggression (Chapter VII)*, <http://www.un.org/en/sc/repertoire/actions.shtml> (last visited Aug. 9, 2017) (complete description of each of the Security Council’s Chapter VII resolutions).

332. Sloan, *supra* note 331, at § 3.2.1 (stating that the Security Council tends to declare only a threat to the peace “even in situations which many would regard as being more in the nature of ‘aggression’”); *see also* Jack Burke, *Germany as a Permanent U.N. Security Council Member*, *FORDHAM POLITICAL REV.* (Apr. 23, 2016), <http://fordhampoliticalreview.org/germany-as-a-permanent-u-n-security-council-member/> [<https://perma.cc/CFU5-8FK6>] (“The U.N. . . . was chartered in 1945 as a neutral arbiter and guarantor of world peace.”).

333. *See, e.g.*, Press Release, U.N. Security Council, *Conflict Prevention Must Be “Cornerstone Of Collective Security In 21st Century, Secretary-General Tells Members, As Council Discusses Armed Conflict*, SC/6892, July 20, 2000, <https://www.un.org/press/en/2000/20000720.sc6892.doc.html> [<https://perma.cc/RSZ2-8L5P>] (U.N. Secretary-General Kofi Annan advocating the international community to focus on early intervention and conflict prevention rather than post-conflict resolution); 2005 World Outcome Document, ¶ 138 (stating that the international community’s responsibility to protect will be enhanced through development of a better “early warning capacity”); L. Feinstein, *Darfur and Beyond:*

On the other hand, it may simply be easier for the Council to justify a finding of “threat to peace,”³³⁴ because a “breach of the peace” has come to be defined as “hostilities between armed units.”³³⁵ The General Assembly, in a resolution, defined an “act of aggression” as “the use of armed force by a State against the sovereignty, territorial integrity or political independence of another State, or in any other manner inconsistent with the charter of the United Nations[.]”³³⁶ whereas a “threat to peace” remains undefined³³⁷ other than in a circular manner.³³⁸ In 1974, Jean Combacau emphasized: “A threat to the peace in the sense of art 39 is a situation that the organ, competent to impose sanctions [the Security Council], declares to be an actual threat to the peace.”³³⁹ While the General Assembly’s definition of an “act of aggression” is not binding on the Security Council,³⁴⁰ the Security Council, in rendering a determination under Chapter 39 that a State’s action constituted an “act of aggression,” most likely would feel obligated to justify any departure from the General Assembly’s definition of the same, as the General Council had developed that definition to assist the Security Council in making its Article 39 determinations.³⁴¹

Finally, the U.N. General Assembly in 2005 affirmed the Security Council’s power under Chapters VI, VII, and VIII of the UNC to protect populations from genocide, war crimes, ethnic cleansing, and crimes against humanity (even if committed by their own

What is Needed to Prevent Mass Atrocities, COUNCIL ON FOREIGN RELATIONS 17 (2007) (stating that diplomatic methods are more effective than military methods, as the former are “easier to initiate and sustain”).

334. *See, e.g.*, Sloan, *supra* note 331, at § 3.2.1 (“While the Charter does not define ‘threat to peace’, ‘breach of the peace’, or ‘act of aggression’, the wording makes it clear that ‘threat to the peace’ has the lowest threshold, requiring the least forcefulness.”).

335. Schott, *supra* note 260, at 36 (citing THE CHARTER OF THE UNITED NATIONS: A COMMENTARY 721 (Bruno Simma et al. eds., 2d ed. 2002) [hereinafter THE COMMENTARY]).

336. G.A. Res. 3314 (XXII), Annex arts, 1-4, U.N. Doc. A/9619 (Dec. 14, 1974).

337. *See, e.g.*, Schott, *supra* note 260, at 36.

338. *See, e.g.*, Chesterman, *supra* note 329, at 127 (citing Jean Combacau, LE POUVOIR DE SANCTION DE ‘ONU: TUDE THÉORIQUE DE LA COERCITION NO MILITAIRE 100 (Editions A Pedone 1974)).

339. *See* Chesterman, *supra* note 329, at 127.

340. THE COMMENTARY, *supra* note 335, at 722.

341. THE COMMENTARY, *supra* note 335, at pmb1.

governments).³⁴² This power is commonly referred to as the Security Council’s “responsibility to protect” or “R2P.”³⁴³ Although the General Assembly established no new law in its R2P resolution,³⁴⁴ many of the Security Council’s Chapter VII findings of a “threat to peace” in recent years have been founded on its responsibility to protect populations from the four atrocities listed in the R2P resolution.³⁴⁵

In any case, in the last two decades, the situations determined by the Security Council to constitute a “threat to the peace” have been voluminous,³⁴⁶ wide-ranging,³⁴⁷ and often involve situations that States in prior years would have considered to be domestic affairs.³⁴⁸ For example, they have included “terrorism, humanitarian intervention

342. G.A. Res. A/RES/60/1, ¶ 138 (Sept. 16, 2005). The Security Council reaffirmed this power in 2006. S.C. Res. 1674, ¶ 4 (Apr. 28, 2006).

343. See, e.g., Malone, *Green Helmets*, *supra* note 4, at 20-21.

344. See, e.g., Malone, *Green Helmets*, *supra* note 4, at 23, 33; A.J. Bellamy & C. Drummond, *The Responsibility to Protect in Southeast Asia: Between Non-Interference and Sovereignty as Responsibility*, 24 THE PAC. REV. 179, 181 (2011).

345. See, e.g., Key Developments on the Responsibility to Protect at the United Nations from 2005-2014, INT’L COALITION FOR THE RESPONSIBILITY TO PROTECT, <http://www.responsibilitytoprotect.org/index.php/about-rtop/the-un-and-rtop> (last visited Aug. 10, 2017) (“Indeed, [in the Security Council], since 2006, 25 resolutions and 6 presidential statements have made references to RtoP. Significantly, 21 of these resolutions have come since February 2011, which indicates an increasing trend towards the assimilation of RtoP into the wider conflict prevention and resolution discourses, along with a greater willingness on the part of the Security Council to incorporate RtoP principles into its framework of operation.”); G.A. Res. A/RES/60/1, ¶ 139 (Sept. 16, 2005) (clarifying that the Security Council, pursuant to its UNC Chapter VII powers, would authorize the use of force in a R2P situation, if that were appropriate).

346. See, e.g., Bosco, *supra* note 327, at 545-546; David Malone, *supra* note 327, at 7-36; Schott, *supra* note 260, at 46.

347. See, e.g., Chesterman, *supra* note 329, at 128 (“Chapter VII has been invoked in an extraordinarily wide range of circumstances since 1992.”).

348. See, e.g., Kawser Ahmed, *The Domestic Jurisdiction Clause in the United Nations Charter: A Historical View*, 10 SYBIL 175, 176 (2006), <http://www.commonlii.org/sg/journals/SGYrBkIntLaw/2006/10.pdf>; Knight, *supra* note 322, at 1566; see also Chesterman, *supra* note 329, at 128, n.129 (quoting U.N. Secretary-General Boutros Boutros-Ghali’s 1992 statement to the effect that “[d]espite the provision in the Charter that the Organization should not intervene in domestic matters, Member States find it more and more difficult to regard any conflict as domestic or internal[]”).

and relief, certification schemes for diamonds to ensure that they do not originate from conflict areas, children and armed conflict, conditions in refugee camps, women and girls and armed conflict, the social causes of armed conflict, the extradition of two terrorists thought responsible for the Lockerbie bombing, and the HIV/AIDS epidemic.³⁴⁹

Some States and commentators in recent years have criticized the now-activist Security Council for issuing so many findings of a “threat to the peace” under UNC Article 39.³⁵⁰ In particular, they have urged the Security Council to employ its R2P powers only when one of the stated atrocities clearly has occurred or is occurring.³⁵¹ In light of this criticism, U.N. officials have explicitly stated that the Security Council should not utilize its R2P power to authorize U.N. troops to enter a State in order to protect that State’s people from an environmental emergency, so long as that emergency is not threatening harm to any other State.³⁵²

However, an environmental emergency that threatens to harm one or more other States is a very different matter. Scholars

349. Knight, *supra* note 322, at 1565-1566.

350. *See, e.g.*, THE UNITED NATIONS SECURITY COUNCIL AND WAR: THE EVOLUTION OF THOUGHT AND PRACTICE SINCE 1945 90 (Oxford U. Press 2010); LORAINIE SIEVERS & SAM DAWS, THE PROCEDURE OF THE U.N. SECURITY COUNCIL 389 (Oxford U. Press, 4th ed. 2014) (“Concerns have been voiced from a significant number of UN Member States that Chapter VII is being invoked too often to impose mandatory obligations on Member States and to take binding decisions on matters outside the traditional functions of the Council.”).

351. *See, e.g.*, Thomas G. Weiss, *Whither R2P?*, in THE RESPONSIBILITY TO PROTECT: CHALLENGES & OPPORTUNITIES IN LIGHT OF THE LIBYAN INTERVENTION, E-INTERNATIONAL RELATIONS 8 (2011), <https://www.files.ethz.ch/isn/181082/R2P.pdf> (“In short, the responsibility to protect is not about the protection of everyone from everything. Broadening [of] perspectives has opened the floodgates to an overflow of appeals to address too many problems. . . . It is emotionally tempting to say that we have a responsibility to protect people from HIV/AIDS and small arms, and the Inuit from global warming, However, if R2P means everything, it means nothing.”); Qu Xing, THE UN CHARTER, THE RESPONSIBILITY TO PROTECT, AND THE SYRIA ISSUE, CHINA INSTITUTE OF INTERNATIONAL STUDIES, CHINA INST. OF INT’L STUDIES (Apr. 16, 2012), http://www.ciis.org.cn/english/2012-04/16/content_4943041.htm [<https://perma.cc/J4KE-5AY9>] (“To sum up, . . . the ‘responsibility to protect’ concept is apt to be abused due to its blurred and extensive definition and the arbitrariness of its application.”).

352. Malone, *Green Helmets*, *supra* note 4, at 24.

overwhelmingly agree that the Security Council would possess the power to declare such an emergency a “threat to the peace” under Article 39 and authorize a U.N. force to enter the locus State over its objection in order to investigate and possibly remediate such an emergency.³⁵³ To begin, the fact that environmental damage threatens peace and security is widely acknowledged. This concept of “environmental security” was first popularized in the 1987 report entitled *Our Common Future*.³⁵⁴ Numerous U.S. agencies, including the Department of Defense, the State Department, and the National Security Agency, have since cited environmental degradation as a national security issue.³⁵⁵ Numerous U.N. agencies and other international organizations, such as the North Atlantic Treaty Organization (NATO) and the International Criminal Police Organization (ICPO or Interpol) have similarly linked environmental quality with security.³⁵⁶ In 1992, the Rio Declaration on Environment and Development, in Principle 25, declared: “peace, development and

353. See, e.g., Knight, *supra* note 322, at 1572; Lorraine Elliott, *Expanding the Mandate of the UN Security Council to Account for Environmental Issues*, U.N. U. INST. OF ADV. STUDIES PROJECT ON INT’L ENVTL. GOV. REFORM 15-17 (February 2002), <http://archive.unu.edu/inter-linkages/docs/IEG/Elliott.pdf>; Murphy, *supra* note 4, at 1184; Linda Malone, *Green Helmets: A Conceptual Framework for Security Council Authority in Environmental Emergencies*, 17 MICH. J. INT’L LAW 515, 523 (1996) [hereinafter Malone, *Conceptual Framework*].

354. See, e.g., Elliott, *supra* note 353; Maria Julia Trombetta, *Environmental Security and Climate Change: Analyzing the Discourse*, 21:4 CAMBRIDGE REV. INT’L AFFAIRS 585 (2009), <http://www.tandfonline.com/doi/full/10.1080/09557570802452920>. This report was published by the World Commission on Environment and Development and is commonly referred to as the Brundtland Report in honor of Gro Helm Brundtland, the first female prime minister of Norway who chaired the Commission. Trombetta, *supra* note 354; The Brundtland Commission Report, *Our Common Future*, THE WORLD COMMISSION ON ENVT. AND DEV. (1987), <https://www.slideshare.net/prithivim1/our-common-future-the-brundtland-commission-report> [<https://perma.cc/YS3K-G44U>].

355. See, e.g., Knight, *supra* note 322, at 1552 (citations omitted); see also Elliott, *supra* note 353, at 10-11.

356. See, e.g., Knight, *supra* note 322, at 1552; STRATEGIC REPORT: ENVIRONMENT, PEACE AND SECURITY A CONVERGENCE OF THREATS, INTERPOL & UNEP, Dec. 2016, at preface (“Abuse of the environment is the fourth largest criminal activity in the world. . . . It is, therefore, a growing threat to peace, security and stability.”).

environmental protection are interdependent and indivisible[.]”³⁵⁷ and that same year the U.N. Security Council stated:

The absence of war and military conflicts amongst states does not in itself ensure international peace and security. The non-military sources of instability in the economic, social, humanitarian and ecological fields have become threats to peace and security.³⁵⁸

Former Secretary-General Kofi Annan “urged the Security Council to expand its agenda to include what he call[ed] the ‘soft threats’ of environmental change and degradation[.]”³⁵⁹ The High Level Panel on Threats, Challenges and Changes established by Kofi Annan recommended specific changes to the Security Council’s jurisdiction to better allow it to respond to such threats.³⁶⁰ Numerous other commentators agree that protection of the environment is a security issue.³⁶¹ This concept can hardly be doubted in light of the fact that in 1995 the Nigerian Government executed nine environmental activists, including the well-known playwright Ken Saro-Wiwa, following disputes with Royal/Dutch Shell over whether it had failed to follow environmental safeguards in Nigeria, thereby destroying numerous communities, farms, and fisheries.³⁶² In total, the U.N. estimated that

357. Rio Declaration, *supra* note 251.

358. President of the Security Council, *Note by the President of the Security Council*, U.N. Doc S/23500 at 3 (Jan. 31, 1992).

359. Knight, *supra* note 322, at 1551 (citing Kofi Annan, The Secretary-General Address to the General Assembly (Sept. 23, 2003), <http://www.un.org/webcast/ga/58/statements/sg2eng030923.htm>).

360. Knight, *supra* note 322, (citing UNITED NATIONS, A MORE SECURE WORLD: ONE SHARED RESPONSIBILITY: REPORT OF THE HIGH-LEVEL PANEL ON THREATS, CHALLENGES, AND CHANGE, U.N. G.A. 59th Sess., U.N. Doc, A/59/565 (Dec. 2, 2004)).

361. *See, e.g.*, Catherine Tinker, Environmental Security: Finding the Balance, in *ADAPTING THE UNITED NATIONS TO A POST-MODERN ERA: LESSONS LEARNED* 204 (W. Andy Knight, ed. Springer 2001).

362. *See, e.g.*, Malone, *Conceptual Framework*, *supra* note 353, at 528-29 (citing Stephen Buckley, Nigeria Hangs Playwright, Eight Activists, *Wash. Post*, Nov, 11, 1995, at A1, A26).

approximately 300 conflicts over water usage erupted around the world in 2011.³⁶³

Furthermore, while the Security Council has not yet issued a Chapter VII resolution authorizing a multilateral force to enter a locus State to investigate or remediate a MIEE, it has issued numerous Chapter VII resolutions related to issues of environmental degradation. For example, in 1991, in a Chapter VII resolution, it found that Iraqi forces under the direction of Saddam Hussein had violated international law when they burned Kuwaiti oil wells, resulting in “environmental damage and the depletion of natural resources.”³⁶⁴ In 2001, it condemned the exploitation of diamonds and other natural resources in the Democratic Republic of the Congo “to finance the conflict in that country.”³⁶⁵ Similarly, the Security Council’s Chapter VII resolutions regarding conflicts in Somalia, Rwanda, Haiti, Nigeria, and Liberia found that these conflicts stemmed in part from environmental degradation issues.³⁶⁶

Scholars agree that a Security Council resolution authorizing a U.N. force to enter a locus State over its objection to investigate and possibly remediate a MIEE (major international environmental emergency) would be lawful.³⁶⁷ This is so because there is an acknowledged connection between environmental degradation and security.³⁶⁸ The Security Council has issued resolutions founded on environmental degradation.³⁶⁹ Moreover, the UNC negotiators clearly intended for the Security Council to take an activist role in maintaining and restoring peace,³⁷⁰ by granting the Council essentially limitless power to determine when a situation constitutes a “threat to the

363. Munizzaman, *supra* note 2.

364. Knight, *supra* note 322, at 1566 (quoting S.C. Res. 687, ¶ 16, U.N. Doc. S/RES/687 (Apr. 3, 1991)).

365. Knight, *supra* note 322 (quoting S.C. Res. 1376, ¶ 8, U.N. Doc. S/RES/1376 (Nov. 9, 2001)).

366. *See, e.g.*, Elliott, *supra* note 353 (discussing situations in Somalia, Rwanda, Liberia, and Haiti); Munizzaman, *supra* note 2 (discussing situations in Rwanda and Nigeria).

367. *See, e.g.*, Knight, *supra* note 322, at 1572; Elliott, *supra* note 353, at 15-17; Murphy, *supra* note 4, at 1184; Malone, *Conceptual Framework*, *supra* note 353, at 523.

368. *See* text accompanying *supra* notes 353-363.

369. *See* text accompanying *supra* notes 364-366.

370. *See* text accompanying *supra* notes 330-333.

peace.”³⁷¹ Finally, the Council has, in fact, found numerous, varied situations to constitute “threats to the peace” in recent years.³⁷²

At the same time, even if an emergency threatened to kill millions of people in a number of other States, the target States could not be certain that the Security Council would authorize a U.N. force to enter the locus State, because one or more of the five permanent members of the Security Council could always veto such a resolution.³⁷³ Furthermore, a permanent member of the Security Council would be especially likely to exercise its veto power if the emergency were occurring in its own territory.³⁷⁴ A permanent member’s vote to insulate itself from a U.N. enforcement action in the face of an environmental emergency in its territory would be inappropriate, given that environmental emergencies don’t respect international borders and the target States may not be able to protect their populations against the harm emanating from the locus State. This is particularly the case, given that other U.N. members could not prevent a U.N.-backed force from entering their territories in the event of an environmental emergency occurring there. Yet, there is nothing in the UNC that would prevent a permanent member of the Security Council from utilizing its veto power in such a case.³⁷⁵

Especially given that a target State cannot rely on the U.N. for assistance when facing severe harm from an environmental emergency in a locus State, that target State may enter the locus State or enlist the assistance of one or more other States to enter the locus State over the locus State’s objection in order to investigate and possibly remediate

371. See text accompanying *supra* notes 330-333. It should be remembered that whatever degree of “imminence” is required for a target State to enter a locus State in self-defense is not required for the Security Council to act. See, e.g., Domikia Švarc, *Redefining Imminence: The Use of Force against Threats and Armed Attacks in the Twenty-First Century*, 13:1 ILSA J. OF INTERNAL & COMPARATIVE L. 171, 176 (2006).

372. See text accompanying *supra* notes 346-349.

373. U.N. Charter art. 27(2), 27(3) (Decisions of the Security Council on procedural matters shall be made by an affirmative vote of nine members. Decisions of the Security Council on all other matters shall be made by an affirmative vote of nine members including the concurring votes of the permanent members[.]).

374. See, e.g., Malone, *Discussion*, *supra* note 325, at 906-907.

375. U.N. charter art. 27.

the emergency.³⁷⁶ The next subsection of this article considers the legality of such an entry into the locus State.

2. Unilateral Intervention Pursuant to the Principle of Self-Defense

First, the customary international law principle of self-defense and the right to self-defense contained in Article 51 of the UNC are discussed. Then, recent developments in the law of self-defense are discussed. Finally, the law of self-defense is applied to answer the question of whether a target State's entry into a locus State without the locus State's permission in order to remediate a MIEE could be justified under the principle of self-defense.

i. Customary International Law Principle of Self-Defense

For hundreds of years, the international community has recognized that each State has the right to use force to defend its nationals, land, resources, or political independence; this principle is considered to be *jus cogens*.³⁷⁷

The criteria for use of force in self-defense were documented in correspondence between U.S. Secretary of State Daniel Webster and Lord Ashburton of Britain following an incident involving the U.S. ship *Caroline* in 1837 (hereinafter the "*Caroline*" and the "*Caroline Incident*").³⁷⁸ These criteria are "necessity" and "proportionality."³⁷⁹ More specifically, Webster stated that the threat requiring the use of

376. The possibility of a State taking action in collective or self-defense is one of the main reasons that the U.N., through the Security Council, was granted the power to take action under Chapter VII of the UNC. Elliott, *supra* note 353, at 15 ("The grounds for a mandate for the Security Council to act in such cases have been assumed to rely on states' individual or collective right of self-defence. . .").

377. Murphy, *supra* note 4, at 1204-1206; Dinah Shelton, *Normative Hierarchy in International Law*, 100 AM. J. INT'L LAW 291, 202 (2006). The British referred to this as an "inherent" right, the French referred to this as a "natural" right, and the Soviets referred to this as an "imprescriptible" right. *See, e.g.*, Murphy, *supra* note 4, at 1205 (citing WILLIAM V. O'BRIEN, LAW AND MORALITY IN ISRAEL'S WAR WITH THE PLO, 286 (Routledge 1991); *see also Nicaragua Case, supra* note 265, at ¶ 176 (referring to this right as a "natural" or "inherent" right).

378. Letter from Daniel Webster to Lord Ashburton (Aug. 6, 1842) (quoted in 2 JOHN BASSETT MOORE, A DIGEST OF INTERNATIONAL LAW 412 (1906)).

379. *See, e.g.*, Murphy, *supra* note 4, at 1208 (citing Robert Y. Jennings, *The Caroline and McLeod Cases*, 32 AM. J. INT'L L. 82, 89 (1938)); *Nicaragua Case, supra* note 265 at ¶ 194.

force in self-defense must be “instant, overwhelming, and leaving no choice of means and no moment for deliberation” (necessity) and the use of force itself cannot be anything unreasonable or excessive[.] . . . [T]he act justified by the necessity of self-defense, must be limited by the necessity and kept clearly within it” (proportionality).³⁸⁰

In 1837, when the *Caroline Incident* took place, Canada was a British territory.³⁸¹ U.S. sympathizers with a Canadian rebel movement had used the U.S. ship *Caroline* on a few occasions to transport arms and supplies to the rebel movement in Canada, and then the Canadian rebels had used those arms to attack British troops and Canadian loyalists within the territory of Canada.³⁸² These U.S. sympathizers were not members of the U.S. military or in any way associated with the U.S. Government.³⁸³ On the evening of December 20, 1837, the *Caroline* was docked at the port of Schlosser, New York, approximately three miles above Niagara Falls.³⁸⁴ In order to stop further arms shipments to the rebels and further rebel attacks on Canadian soil, British troops illegally crossed into the U.S., attacked the mean onboard the *Caroline*, set the *Caroline* on fire, and sent the ship over Niagara Falls.³⁸⁵ During this event, at least one of the U.S.

380. Murphy, *supra* note 4, at 1208 (internal citation omitted). Significantly, these criteria essentially are the same as the criteria for a claim of self-defense in criminal law. According to the U.S. Model Penal Code, for example, “the use of force in self-defense is permitted when it is necessary as a means of protection against the use of unlawful force by another. . . . [and] [o]ne may only use the amount of force necessary to protect against the threatened unlawful harm.” Model Penal Code § 3.04 (material in brackets added).

381. See, e.g., Ged Martin, *Canadian Confederation and Historical Explanation*, in *BRITAIN AND THE ORIGINS OF CANADIAN CONFEDERATION 1837-67* (U. of Brit. Colum. Press 1995).

382. See, e.g., Hunter Miller, *The Caroline Case*, YALE LAW SCHOOL AVALON PROJECT, http://avalon.law.yale.edu/19th_century/br-1842d.asp [<https://perma.cc/56FR-WYGA>]; see also Edward Collins, Jr. & Martin A. Rogoff, *The Caroline Incident of 1837, the McLeod Affair of 1840-1841, and the Development of International Law*, AM. REV. CAN. STUD. 81-107 (Spring 1990), James G. Apple, *Origin of Definition of “Necessity” in the International Law of Self Defense – the Caroline Affair*, INT’L JUDICIAL ACADEMY, AM. SOC. OF INT’L LAW, Washington, D.C., Spring 2012 (on file with author).

383. See Miller, *supra* note 382.

384. See Miller, *supra* note 382.

385. See Miller, *supra* note 382.

sympathizers was killed and several were wounded, and there was a loud protest in the U.S. regarding these U.S. casualties.³⁸⁶

In order to resolve the dispute between the U.S. and Canada, Webster and Ashburton engaged in the communication referred to above.³⁸⁷ Ultimately, in these communications, each government apologized to the other. Secretary Webster apologized that the U.S. hadn't been able to prevent the U.S. sympathizers from assisting the Canadian rebels. He also stated that employment of force might be justified in such a situation, but he maintained that, in the present case, there had been no "necessity" for Britain to use the force against the *Caroline* and its inhabitants that it had.³⁸⁸ On behalf of Britain, Lord Ashburton apologized for Britain's entry into U.S. territory without the U.S.' permission and attack on the *Caroline*, but then he maintained that Britain had had no choice but to conduct this operation³⁸⁹ because the U.S. had been unwilling or unable to control its nationals who were supporting the Canadian rebels.³⁹⁰

Again, the only two criteria for a state's use of force in self-defense which Webster and Ashburton explicitly mentioned in their correspondence are "necessity" and "proportionality."³⁹¹ In particular, they did not require that a victim State must first suffer an "armed attack" at the hands of a perpetrator State before the victim State can use force in self-defense (although the U.S. sympathizers certainly had violated Canada's territorial integrity and political independence and wished to harm Britain).³⁹² In fact, Webster and Ashburton indicated that, so long as the criteria of "necessity" and "proportionality" are met, a State can use force in response to an *imminent*, rather than an actual, attack.³⁹³ Furthermore, they indicated that a State can even use force in self-defense in response to threats made by a non-state actor if the state harboring the non-state actor is unwilling or unable to control that actor's behavior.³⁹⁴ Finally, although Secretary Daniel

386. See Miller, *supra* note 382.

387. See Miller, *supra* note 382.

388. See Miller, *supra* note 382.

389. See Miller, *supra* note 382.

390. See Miller, *supra* note 382.

391. See Miller, *supra* note 382.

392. See Miller, *supra* note 382.

393. See Miller, *supra* note 382.

394. See Miller, *supra* note 382.

Webster refused to concede the point in his communications with Lord Ashburton,³⁹⁵ the international community has generally agreed that the two criteria of “necessity” and “proportionality” were met in the *Caroline Incident* and thus Britain’s actions were justified.³⁹⁶

ii. Adoption of Article 51 of the UNC

As stated above, in 1945, following the conclusion of World War II, the negotiators of the UNC, incorporated the general prohibition against any threat or use of force by any State in Article 2(4).³⁹⁷ During the UNC negotiations, the U.S. had argued that the customary international law principle of self-defense was so well-established that it need not be stated in the UNC.³⁹⁸ In addition, several previous multilateral treaties, such as the Covenant of the League of Nations³⁹⁹ and the Kellogg-Briand Pact,⁴⁰⁰ had not referred to the principle, yet many of the signatories to those treaties had clarified in separate, contemporaneous writings that the treaty did not abrogate the customary international law principle of self-defense.⁴⁰¹ Just prior to 1945, however, several State representatives negotiating the UNC had entered into mutual defense treaties and wanted to ensure that these defense pacts would still be considered legal under the UNC.⁴⁰² For this reason, the negotiators agreed to include a specific reference to the self-defense principle in Article 51 of the UNC.⁴⁰³

Article 51 reads as follows:

Nothing in the present Charter shall impair the inherent right of individual or collective self-defence if an armed attack occurs against a Member of the United Nations, until the Security Council has taken measures necessary to main

395. *See* Miller, *supra* note 382.

396. *See* Miller, *supra* note 382.

397. U.N. Charter art. 2, ¶ 4.

398. *See* Schmidt, *supra* note 314, at 329.

399. The League of Nations, *supra* note 257.

400. General Treaty for Renunciation of War as an Instrument of National Policy, Aug. 27, 1928, 46 Stat. 2343, 94 L.N.T.S. 57.

401. *See* Murphy, *supra* note 4, at 1202-1203.

402. *See* Murphy, *supra* note 4, at 1202 (Discussing The Act of Chapultepec and Inter-American Treaty of Reciprocal Assistance).

403. *See* Murphy, *supra* note 4, at 1202.

international peace and security. Measures taken by Members in the exercise of this right of self-defence shall be immediately reported to the Security Council and shall not in any way affect the authority and responsibility of the Security Council under the present Charter to take at any time such action as it deems necessary in order to maintain or restore international peace and security.⁴⁰⁴

The term “armed attack” is not defined in the UNC.⁴⁰⁵ While we know why the negotiators included Article 51 in the UNC, it is not completely clear why they agreed to include the language, “if an armed attack occurs against a Member of the United Nations” in Article 51, other than a desire to limit the right of self-defense.⁴⁰⁶ This is especially the case, given that neither the customary international law principle of self-defense nor the concept of self-defense in domestic criminal law traditionally had been explicitly conditioned on the occurrence of an “armed attack.”⁴⁰⁷ Some have suggested that the UNC negotiators added this phrase in order to include an objectively verifiable condition to a state’s claimed right to use force in self-defense, “[because] Germany had entered Poland on the pretext that Poland had attacked her.”⁴⁰⁸ The negotiators’ desire to discourage States’ use of force based on false claims of self-defense is understandable. However, the inclusion of the “armed attack” language in Article 51 was immediately controversial.

Following adoption of the UNC, a lively debate ensued regarding the significance of the “armed attack” requirement contained in Article

404. U.N. Charter art. 51.

405. *Id.*, see also Schmidt, *supra* note 314, at 330.

406. See, e.g., Schmidt, *supra* note 314, at 330. Apparently, the inclusion of the phrase was proposed by the U.S. THOMAS M. FRANCK, RECOURSE TO FORCE: STATE ACTIONS AGAINST THREATS AND ARMED ATTACKS 50-51 (Cambridge U. Press 2002) [hereinafter FRANCK, RECOURSE TO FORCE].

407. See Schmidt, *supra* note 314.

408. Jan Wouters & Tom Ruys, *The Legality of Anticipatory Military Action After 9/11: The Slippery Slope of Self-Defence*, INST. FOR INT’L L. Working Paper No. 91 (Feb. 2006), at text accompanying n.20 (citing FRANCK, RECOURSE TO FORCE, *supra* note 406, at 48); see also ROBERT G. STOREY, THE FINAL JUDGMENT? PEARL HARBOR TO NUREMBERG 2 (Naylor & Co. eds. 1968); FRANCIS SCHÜSSLER RIORENZA, ET AL., POLITICAL THEOLOGY: CONTEMPORARY CHALLENGES AND FUTURE DIRECTIONS 187 (Westminster John Knox Press 2013).

51. Some writers (generally referred to as “restrictionists”) focused on the “armed attack” requirement in Article 51 and argued that Article 51 had completely supplanted the customary international law principle of self-defense.⁴⁰⁹ Others (generally referred to as “counter-restrictionists”) focused instead on Article 51’s reference to the “inherent right of individual or collective self-defense,” and tended to argue that while Article 51 might condition the use of force in self-defense on an “armed attack,” a State still could use force in self-defense in the absence of an armed attack under the customary international law principle of self-defense.⁴¹⁰

Neither argument was logical. The restrictionists’ argument was illogical because Article 51 explicitly stated that nothing in the UNC (including Article 51) abrogated the customary international law principle of self-defense.⁴¹¹ On the other hand, the counter-restrictionists’ argument was illogical because the plain language of Article 51 indicates (even if incorrectly) that an “armed attack” is a condition to the use of force in self-defense under customary international law.⁴¹² Furthermore, the maintenance of two competing criteria for use of force in self-defense is illogical. The issues of exactly how the customary international principle of self-defense fit together with UNC Article 51, whether an armed attack was required for use of force in self-defense in all situations, and the parameters of any such required “armed attack” were unclear for decades.

iii. International Court of Justice Decision in Military and Paramilitary Activities in and Against Nicaragua

The Nicaragua Case,⁴¹³ discussed above,⁴¹⁴ addressed many of the open issues relevant to the right to use of force in self-defense under Article 51 and the customary international law principle of self-defense. With regard to the U.S.’ claim that its actions were justified under the principle of collective defense, the ICJ considered only the

409. See AREND & BECK, *supra* note 258 at 72-73; see also Murphy, *supra* note 4, at 1200-1202.

410. See AREND & BECK, *supra* note 258 at 72-73; see also Murphy, *supra* note 4, at 1200-1202.

411. U.N. Charter art. 51.

412. *Id.*

413. *Nicaragua Case*, *supra* note 265.

414. See § II.C.2.iv.

customary international principle of collective defense, given the U.S.' multilateral treaty reservation to the ICJ Statute.⁴¹⁵ The specific actions that the U.S. claimed justified its own actions against Nicaragua were Nicaragua's alleged provision of arms to the organized opposition in El Salvador, its military incursions into Costa Rica, and its military incursions into Honduras.⁴¹⁶ In applying the customary international principle of collective/self-defense to the U.S.' actions, the ICJ first clarified that, when the UNC negotiators referred to the customary international principle of collective/self-defense in Article 51 of the UNC, that principle continued to exist after the UNC went into effect.

The ICJ specifically emphasized that the language of Article 51 – “Nothing in the present Charter shall impair the inherent right of individual or collective defense” - would be nonsensical otherwise.⁴¹⁷ It then noted that the content of the customary international law principle of self-defense and the content of Article 51 are not identical.⁴¹⁸ For example, the ICJ noted that Article 51 did not reference the criteria of “necessity” and “proportionality” contained in the customary international law principle of self-defense.⁴¹⁹

On the other hand, the ICJ assumed (without providing any evidence in support of its assumption) that when the UNC was adopted in 1945, that the customary international law right of self-defense was conditioned on the occurrence of an “armed attack.”⁴²⁰ At the same time, it noted that, since Article 51 does not define the term “armed attack,” customary international law would govern the meaning of “armed attack,” which could, of course, evolve over time.⁴²¹ The ICJ

415. *See* § II.C.2.iv.

416. *See* § II.C.2.iv.

417. *Nicaragua Case*, *supra* note 265, at ¶ 176.

418. *Nicaragua Case*, *supra* note 265, at ¶ 176.

419. *Nicaragua Case*, *supra* note 265, at ¶ 176.

420. *Nicaragua Case*, *supra* note 265, at ¶¶ 195, 211. A number of authors have pointed out that the customary international principle of self-defense, at least originally, did not condition the use of force in self-defense upon the occurrence of an armed attack. *See, e.g.*, Murphy, *supra* note 4, at 1201, n.88.

421. *Nicaragua Case*, *supra* note 265, at ¶ 176. This essentially was the interpretation of how Article 51 of the UNC and the customary international law principle of self-defense worked together which Thomas Franck, the Murray and Ida Becker Professor of Law at New York University School of Law, had offered. *See, e.g.*, FRANCK, *RECOURSE TO FORCE*, *supra* note 406, at 3-50 (Cambridge U. Press. 2002) (summarizing his earlier statements).

went on to state that not every use of force by one State against a second State constitutes an “armed attack.”⁴²² Only a use of force of sufficient “scale and effects” constitutes an “armed attack.”⁴²³ For example, the ICJ noted, a “minor border incident” is not an “armed attack.”⁴²⁴

In this case, the U.S. did not claim that any of its actions were intended to repel or minimize an imminent armed attack.⁴²⁵ Therefore, the ICJ did not have an opportunity to express any view regarding whether, pursuant to UNC Article 51 or the customary international law principle of self-defense, an “armed attack” could include an “imminent armed attack.”⁴²⁶

The ICJ addressed the circumstances under which the acts of a non-State actor can be attributed to a State in *The Nicaragua Case*.⁴²⁷ Specifically, it stated that such acts can be attributed to the State harboring the non-State actor only when the State had “effective control” over the non-State actor.⁴²⁸ This issue was relevant in the Nicaragua case because the Nicaragua had claimed that the U.S. was responsible for various atrocities allegedly committed by the *Contras*, and, on this point, the ICJ held that such atrocities could not be imputed to the U.S. because Nicaragua had not proven that the U.S. had “effective control” over the *Contras*.⁴²⁹

Finally, the ICJ held that, even if Nicaragua’s actions had constituted arms attacks (and they had not), the U.S.’ actions still could not be justified under the customary international principle of collective/self-defense because those actions had not met either of the two criteria of

422. *Nicaragua Case*, *supra* note 265, at ¶¶ 191, 195, 210.

423. *Nicaragua Case*, *supra* note 265, at ¶ 195.

424. *Nicaragua Case*, *supra* note 265, at ¶ 195. This since has been referred to as the “scale and effects” test (*see, e.g.*, KARL ZEMANEK, *Armed Attack*, MAX PLANCK ENCYCLOPEDIA OF PUB. INT’L L. ¶ 7 (Oct. 2013) (citing several authors), <http://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e241> [<https://perma.cc/7M8R-9NQM>]), and many commentators have criticized the ICJ for establishing this test in *The Nicaragua Case* without providing any guidance as to how a “minor border incident” should be distinguished from an “armed attack.” ZEMANEK, *supra* note 424, at ¶¶ 7-8.

425. *Nicaragua Case*, *supra* note 265, at ¶ 194.

426. *Nicaragua Case*, *supra* note 265, at ¶ 194.

427. *Nicaragua Case*, *supra* note 265, at ¶ 115.

428. *Nicaragua Case*, *supra* note 265, at ¶ 115.

429. *Nicaragua Case*, *supra* note 265, at ¶ 116.

“necessity” and “proportionality” required by that principle.⁴³⁰ Specifically, the ICJ found that the U.S. had not proven that the Government of Nicaragua itself had provided arms to the rebels in El Salvador, at least since the early months of 1981.⁴³¹ Furthermore, Nicaragua’s attacks in Costa Rica and Honduras were mere “incursions”⁴³² and El Salvador, Costa Rica and Honduras had not requested the U.S.’ assistance in response to what they considered to be “armed attacks” by Nicaragua.⁴³³ For these reasons, none of Nicaragua’s alleged actions constituted an “armed attack.”⁴³⁴ Furthermore, even if at least one of Nicaragua’s alleged actions had constituted an armed attack, the ICJ explained that the U.S.’ actions had not been “necessary” because the armed opposition in El Salvador had already failed by January 1981, long before the U.S.’ actions.⁴³⁵ Furthermore, the ICJ concluded, the U.S.’ laying of mines in Nicaragua’s ports and its attacks on Nicaragua’s ports, oil installations, and a naval base had not been “proportional” to Nicaragua’s alleged actions against El Salvador, Costa Rica, and Honduras, even assuming those allegations to be true.⁴³⁶

Following *The Nicaragua Case*, a number of commentators argued that the ICJ’s assumption that the customary international law principle of self-defense conditioned the use of force on the occurrence of an armed attack was unsupported by any evidence and incorrect.⁴³⁷ In general, though, over time the international community has come to accept that, even under the customary international law principle of collective/self-defense, a State’s use of force must be conditioned on

430. *Nicaragua Case*, *supra* note 265, at ¶ 237.

431. *Nicaragua Case*, *supra* note 265, at ¶ 160.

432. *Nicaragua Case*, *supra* note 265, at ¶¶ 164, 237.

433. *Nicaragua Case*, *supra* note 265, at ¶¶ 232-233.

434. *Nicaragua Case*, *supra* note 265, at ¶ 237. The ICJ did note that two examples of an “armed attack” are a State’s use of its own military forces against another State and a State’s use of non-regular or paramilitary forces against another State. *Nicaragua Case*, *supra* note 265, at ¶ 195.

435. *Nicaragua Case*, *supra* note 265, at ¶ 237.

436. *Nicaragua Case*, *supra* note 265, at ¶ 237.

437. *See, e.g.*, Murphy, *supra* note 4, at 1206 (stating that “[a]n interpretation of Article 51 that restricts the right to self-defense only to situations following an armed attack must be invalid”); *see also* JAMES A. GREEN, *THE INTERNATIONAL COURT OF JUSTICE AND SELF DEFENCE IN INTERNATIONAL LAW* 210 (Bloomsbury Pub. 2009).

the occurrence of an armed attack.⁴³⁸ The international community has instead concentrated on the meaning of an “armed attack” in a wide variety of settings.⁴³⁹

iv. Developments Following The Nicaragua Case

In the three decades since *The Nicaragua Case*, the law regarding the use of force in self-defense has evolved in several respects. This subsection discusses those developments.

a. No Particular Weapon is Needed for an “Armed Attack”; Widespread Damage to Humans or Property is Key.

Since *The Nicaragua Case*, the ICJ and international community in general have clarified that the “scale and effects” test for distinguishing between a minor border incident and an armed attack first announced by the ICJ in *The Nicaragua Case* is actually an effects-only test.⁴⁴⁰ More specifically, the particular “weapon” used is irrelevant⁴⁴¹ and can be as small in “scale” as the release of an invisible biological or chemical toxin⁴⁴² and still be considered an armed attack,

438. *See, e.g.*, TOM RUYS, ‘ARMED ATTACK’ AND ARTICLE 51 OF THE UN CHARTER: EVOLUTIONS IN CUSTOMARY LAW AND PRACTICE 10 (Cambridge U. Press 2010) (stating that “in 1966, the International Law Commission observed that ‘the great majority of international lawyers today unhesitatingly hold that Article 2, paragraph 4, together with other provisions of the Charter, authoritatively declares the modern customary law regarding the threat or use of force’”).

439. For example, in recent years, many scholars have debated whether imminent armed attacks, attacks by non-state actors such as Al Qaeda in the case of the 9/11 attacks, and cyberattacks are “armed attacks.” *See, e.g.*, Leo Van Den Hole, *Anticipatory Self-Defence under International Law*, 19 AM. U. INT’L L. REV. 69 (2003); Ashley Deeks, “Unwilling or Unable”: *Toward a Normative Framework for Extraterritorial Self-Defence*, 52 VA. J. INT’L L. 483 (2012); T.H.E. Rolsasen, *When Do Cyber Operations Amount to Use of Force and Armed Attack, and What Response Will They Justify?*, Ph.D. dissertation submission, U. OF OSLO FACULTY OF L. (Apr. 25, 2016), <https://www.duo.uio.no/bitstream/handle/10852/50840/723.pdf?sequence=1>.

440. *See, e.g.*, *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, 1996 I.C.J. 226, ¶¶ 39-40 (July 8) (stating “[t]hese provisions do not refer to specific weapons. They apply to any use of force, regardless of the weapons employed[.]” [hereinafter I.C.J. Advisory Opinion]).

441. I.C.J. Advisory Opinion, *supra* note 440, at 226 ¶¶ 39-40.

442. *See, e.g.*, ZEMANEK, *supra* note 424, at ¶ 11 (citing Ian Brownlie, *The Use of Force in Self-Defence*, 27 BYIL 183, 255-256 (1961)).

so long as use of the “weapon” is capable of causing “considerable loss of life and/or extensive destruction of property[.]”⁴⁴³

b. Attribution of Actions of a Non-State Actor to a State

As discussed above, the ICJ, in *The Nicaragua Case*, adopted an “effective control” test for determining whether the actions of a non-State actor are attributable to a State,⁴⁴⁴ and the ICJ subsequently affirmed this test.⁴⁴⁵ Since *The Nicaragua Case*, however, the international community, including the U.N. Security Council regarding the 9/11 attacks by Al Qaeda,⁴⁴⁶ through both its statements (*opinio juris*) and its practices, has largely embraced the principle that the actions of a non-State actor are attributable to a State if that State is “unwilling or unable” to control that non-State actor’s actions.⁴⁴⁷

The “unwilling or unable” test for imputing to a State a non-State actor’s behavior actually has a very long history.⁴⁴⁸ For centuries, States have relied on this principle, in part, to justify rescues of their

443. ZEMANEK, *supra* note 424, at ¶ 21.

444. *Nicaragua Case*, *supra* note 265, at ¶ 115.

445. *Application of Convention on Prevention and Punishment of Crime of Genocide* (Bosn. and Herz. v. Serb. and Montenegro), 1996 I.C.J. 595, 43 ¶¶ 399-403 (July 11) (rejecting the “overall control” test espoused by the Appeals Chamber in the International Criminal Tribunal for Yugoslavia in the *Tadić* case (Prosecutor v. Tadić. Case No. IT-94-1-I, Decision on Defence Motion for Interlocutory Appeal on Jurisdiction (Int’l Crim. Trib. for the Former Yugoslavia Oct. 2, 1995))).

446. S.C. Res. 1368, U.N. Doc. S/RES/1368 (Sept. 12, 2011) (recognizing the U.S.’ right to use force in self-defense in response to the 9/11 attacks by non-state actors).

447. *See, e.g.*, YORAM DINSTEIN, *WAR, AGGRESSION AND SELF-DEFENCE* 275 (Cambridge U. Press 2011); Thomas M. Franck, *Terrorism and the Right of Self-Defense*, 95 AM. J. INT’L L. 839, 840 (2001); Sean Murphy, *Terrorism and the Concept of “Armed Attack” in Article 51 of the UN Charter*, 43 HARV. INT’L L. J. 41, 50 (2002); Paulina Starski, *Right to Self-Defense, Attribution and Non-State Actor - Birth of the Unwilling or Unable Standard*, 75 ZaöRV 451 (2015); Deeks, *supra* note 439, at 488; *see also* Elena Chachko & Ashley Deeks, *LAWFARE: Who is on Board with “Unwilling or Unable”?*, LAWFARE BLOG (Oct. 10, 2016), <https://www.lawfareblog.com/who-board-unwilling-or-unable> [<https://perma.cc/9F8W-GEUY>] (cataloging “[s]tates that have used force against non-state actors on the territory of third States without the latter’s consent”).

448. *See, e.g.*, Deeks, *supra* note 439, at 486.

nationals in foreign countries.⁴⁴⁹ In addition, as indicated above, Britain relied on this principle for its entry into U.S. territory and destruction of the *Caroline* in 1837.⁴⁵⁰

c. An “Armed Attack” Includes an “Imminent Armed Attack.”

Today, the international community also generally agrees that an “imminent armed attack” qualifies as an “armed attack.”⁴⁵¹ At the same time, States distinguish between an “imminent attack” on the one hand, and an unjustifiable “pre-emptive attack” on the other hand.⁴⁵² A “pre-emptive attack” is an attack that is conducted to prevent some possible future attack by an unfriendly State in the future, *e.g.*, by effecting regime change in the unfriendly State.⁴⁵³

Following the 9/11 attacks, the U.S. primarily justified its attack on Afghanistan, not on the 9/11 attacks *per se*, but on its alleged right to respond to further “imminent attacks” being plotted against the U.S. by Al Qaeda in Afghanistan.⁴⁵⁴ Initially, many States and international law experts rejected the U.S.’ claimed entitlement to repel an

449. *See, e.g.*, Andrew W.R. Thomson, *Doctrine of the Protection of Nationals Abroad: Rise of the Non-Combatant Evacuation Operation*, 11 WASH. U. GLOBAL L. S. L. REV. 627, 657, n.193 (2012).

The right of states to use force in the protection of nationals abroad flows from the universally accepted principle of international law that injury to a state’s national may be considered injury to the State itself; as such it is properly accommodated within the inherent right to self-defense including as exercised against non-state actors. The right arises in situations where nationals are at risk of death or grave injury, and the host (territorial) state is unwilling or unable to secure their safety, or otherwise take necessary action in compliance with its obligations under international law.

Id. (quoting Allan Kessel, *Canadian Practice in International Law*, XLVII CAN. Y.B. OF INT’L L. 411–47 (2009)).

450. *See* text accompanying *supra* notes 378-390.

451. *See, e.g.*, ZEMANEK, *supra* note 424, at ¶ 4.

452. *See* ZEMANEK, *supra* note 424, at ¶ 4.

453. *See* ZEMANEK, *supra* note 424, at ¶ 4.

454. *See, e.g.*, Ryan T. Williams, *Dangerous Precedent: America’s Illegal War in Afghanistan*, 33 U. PA. J. INT’L L. 563, 566-567 (2011).

“imminent armed attack” emanating from Afghanistan,⁴⁵⁵ even though the “imminent attack” principle had been recognized at least as long ago as the 1837 *Caroline Incident*.⁴⁵⁶ Since the 9/11 attacks in 2001, however, technology has advanced tremendously and States understand that a wide variety of State and non-State actors possess the capacity to inflict widespread damage on their nationals and environment simply with the click of a computer mouse, without warning.⁴⁵⁷ As a result, the international community has come to agree that a victim State can use force in anticipatory self-defense, but only if the victim State can prove, on the basis of *credible evidence*, that the attack is “*manifestly imminent*.”⁴⁵⁸

d. Intent to Harm Required?

In the *Case Concerning Oil Platforms (Islamic Republic of Iran v. United States of America)*⁴⁵⁹ (hereinafter “*The Oil Platforms Case*”), the ICJ concluded that the U.S. was not entitled to bomb some of Iran’s off-shore oil platforms in self-defense after, among other events, one of its U.S.-flagged ships, the *Sea Isle City*, was hit by a missile while in Kuwaiti waters and another of its U.S.-flagged ships, the *Bridgeton*, was hit by a mine in international waters near Bahrain.⁴⁶⁰ This was so even though the U.S. had determined that Iranian forces fired the missile which hit the *Sea Isle City* and laid the mine which the *Bridgeton* hit.⁴⁶¹ The ICJ explained that the U.S.’ claim of self-defense

455. See, e.g., Wouters & Ruys, *supra* note 408, at § 1 (stating “customary international law throughout the Cold War era rejected the possibility of anticipatory self-defence, albeit not unanimously. Such was the status of the law before the promulgation of the Bush doctrine.”).

456. See Wouters & Ruys, *supra* note 408, at § 1.

457. See, e.g., Gene J. Koprowski, ‘Invisible’ Airplanes: Chinese, US Race for Cloaking Tech, FOX NEWS (Dec. 17, 2013), <http://www.foxnews.com/tech/2013/12/17/invisible-airplanes-chinese-us-scramble-for-cloaking-tech.html> [<https://perma.cc/5GM3-4ZWJ>]; *The Unseen Threat of Digital Warfare*, TIME (Mar. 22, 2016), <http://time.com/4263185/digital-warfare/>; Andy Extance, *Military Technology: Laser Weapons Get Real*, NATURE (May 27, 2015), <https://www.nature.com/news/military-technology-laser-weapons-get-real-1.17613>.

458. ZEMANEK, *supra* note 424, at ¶ 4 (emphasis added).

459. *Oil Platforms (Iran v. U.S.)*, Judgment (Merits), 2003 I.C.J. 161 (Nov. 6) [hereinafter *Oil Platforms Case*].

460. See *Oil Platforms Case*, *supra* note 459, at ¶¶ 64, 78.

461. See *Oil Platforms Case*, *supra* note 459, at ¶¶ 64, 78.

against Iran must fail, because, even if Iran had fired the missile that hit the *Sea Isle City*, that missile had been fired from such a distance that it “could not have been aimed at the specific vessel.”⁴⁶² Furthermore, the ICJ noted, “there was “no evidence that the minelaying . . . [by Iranian forces] was aimed specifically at the United States” or that the mine that the *Bridgeton* hit “was laid with the specific intention of harming that ship, or other United States vessels.”⁴⁶³ These statements could be interpreted to mean that a victim State must also prove that the perpetrator State or non-State actor “intended to harm” the victim State before the victim State can use force in self-defense against the perpetrator State or non-State actor.⁴⁶⁴

It should be noted that the ICJ’s comments regarding the U.S.’ claim of self-defense in this case were *dicta*.⁴⁶⁵ That is, as the ICJ already had ruled against Iran on its claim that the U.S., in bombing Iran’s oil platforms, had violated the 1955 Treaty of Amity, Economic Relations and Consular Rights between the U.S. and Iran (hereinafter the 1955 Treaty),⁴⁶⁶ the ICJ did not need to address the U.S.’ claim of self-defense.⁴⁶⁷ Furthermore, this aspect of the ICJ’s decision in *The Oil Platforms Case* has been criticized by a numerous writers, especially given that several multilateral treaties in effect at the time of this case prohibited the indiscriminate laying of mines in light of the danger that such mines posed to all ships.⁴⁶⁸ For both of these reasons, it is not clear that a victim State must prove “intent to harm” on the part of the perpetrator State or non-State actor before using force against that State or non-State actor in self-defense.

462. See *Oil Platforms Case*, *supra* note 459, at ¶ 64.

463. See *Oil Platforms Case*, *supra* note 459, at ¶ 64.

464. See, e.g., William H. Taft IV, *Self Defense and the Oil Platforms Decision*, 29 YALE J. INT’L LAW 291, 295, 299, 302-303 (2004), <http://digitalcommons.law.yale.edu/yjil/vol29/iss2/3>. UNC Article 51 and the customary international principle of self-defense were relevant in *The Oil Platforms Case* only because the U.S. had claimed that its action against Iran was justified under the security exception contained in the 1955 Treaty, and the ICJ then concluded “that the security exception in the 1955 Treaty implicitly encompassed general principles of self-defense.” *Id.* at 296.

465. See, e.g., Taft, *supra* note 464, at 295; ZEMANEK, *supra* note 424, at ¶ 9.

466. See *Oil Platforms Case*, *supra* note 459, at ¶¶ 98-99.

467. See Taft, *supra* note 464, at 296.

468. See, e.g., Taft, *supra* note 464, at 302-303; ZEMANEK, *supra* note 424, at ¶ 9.

In fact, numerous legal theories support the conclusion that a target State should not be required to prove the locus State's "intent to harm" before it can enter the locus State to remediate a MIEE in self-defense. These are discussed in the next subsection.

v. *Application of Current International Law to a Possible MIEE*

Although polluted air or water emanating from a locus State is an unconventional "weapon" in accordance with current international law, a MIEE nonetheless could be considered an armed attack, assuming that an armed attack is required by both UNC Article 51 and the customary international law principle of self-defense. An event is considered to be of a sufficient gravity to be considered an "armed attack" if it causes considerable loss of life and/or extensive destruction of property.⁴⁶⁹ A MIEE by definition threatens to cause considerable loss of life and/or extensive destruction of property.⁴⁷⁰ At the same time, the locus State may not permit any representatives of a target State to enter the locus State to ascertain whether the target State is facing such a threat.

Furthermore, in the case of a MIEE, the directly culpable party for the occurrence of a MIEE typically would be a non-State actor, *i.e.*, a private company. Yet, in such a situation, the target State ultimately should be able to demonstrate that the MIEE occurred because the locus State was "unwilling or unable to control" that non-State actor, because the locus State has the legal authority to regulate the behavior of that actor. Accordingly, the actions of the non-State actor should be attributable to the locus State.⁴⁷¹

Also, it would only make sense to permit a target State to enter the locus State if a MIEE was on-going and threatening to cause considerable loss of life and/or extensive destruction of property in the target State. That is, the self-defense principle permits a victim to attempt to repel a future attack, not retaliate for a completed attack.⁴⁷² If the target State has already suffered harm from a major environmental emergency in the locus State, its remedy would be

469. *See, e.g.*, ZEMANEK, *supra* note 424, at ¶ 21.

470. *See supra* Introduction, §§ I, III.

471. *See supra* § II.C.2.iv.b.

472. *See infra* §§ II.C.2.iv.c, II.C.2.v.a.

limited to obtaining damages from the locus State for that harm.⁴⁷³ On the other hand, some may argue that a target State should not be permitted to enter a locus State to remediate a MIEE because an armed attack has not already occurred.⁴⁷⁴ However, as discussed above, today the general consensus in the international community is that a MIEE should qualify as an armed attack, so long as the target State can prove, based on credible evidence, that the considerable loss of life and/or extensive destruction of property threatened by the MIEE is manifestly imminent.⁴⁷⁵ Even if a target State in fact faces such a threat, it may very well be unable to produce the proof necessary to warrant its entry into the locus State, as the locus State could simply deny the target State's request to enter for investigative purposes.⁴⁷⁶

Finally, some may argue, in reliance on *The Oil Platforms Case*, that a MIEE cannot be considered an armed attack because neither the directly culpable party, a non-State actor, nor the locus State, intended to harm the target State.⁴⁷⁷ To be sure, the typical MIEE would be an accident caused by a non-State actor,⁴⁷⁸ but in at least many such cases, a locus State's failure to properly regulate the non-State actor's conduct could be considered to be intentional conduct under the Rome Statute's definition of intent.⁴⁷⁹ That definition provides that intentional conduct includes conduct where the actor "is aware that it will occur in the ordinary course of events."⁴⁸⁰ Moreover, a lack of intent to harm should not prevent the target State (or a multilateral environmental force, as discussed in the next section of this article) from entering the locus State to remediate the MIEE in order to prevent such harm from befalling the target State. This conclusion is supported by numerous legal theories. At a minimum, these theories include the

473. *See supra* § II.A.

474. *See supra* § II.C.2.iv.

475. *See supra* § II.C.2.iv.

476. As it initially would be difficult for individuals outside of the locus State to access the information needed to assess whether a MIEE is occurring in the locus State, the proposal discussed in Section III of this article includes the right of the "Green Helmets" at UNEP to enter the locus State initially solely for the purpose of ascertaining whether a MIEE is occurring there. *See infra* § III.

477. *See* Taft, *supra* note 464.

478. *See* Taft, *supra* note 464.

479. Rome Statute of the International Criminal Court, U.N. Doc. A/CONF.183/9, at 30(2)(b) (July 17, 1998) (*entered into force* July 1, 2002).

480. *Id.*

self-defense principle in domestic criminal law, emergency exceptions to trespass in international and domestic law, and the precautionary principle in environmental law. Each of these theories is discussed in turn below, but, in general, an “intent to harm” requirement is inappropriate, because the harm threatening the target State is no less severe when neither the non-State actor nor the locus State intends to harm the target State.⁴⁸¹

a. The Self-Defense Principle in Domestic Criminal Law

As in the two *Caroline Incident* criteria for self-defense in international law, a person generally must prove the following two elements in order to establish a claim of self-defense in domestic criminal law around the world: (1) necessity of the use of force; and (2) proportionality of the amount of force used.⁴⁸² In those States, if a claimant honestly believes that both the use of force and the amount of force used were necessary but at least one of these beliefs was objectively unreasonable, then the claimant is considered to have established an “imperfect” self-defense claim.⁴⁸³ In that case, he or she

481. See, e.g., Taft, *supra* note 464, at 302 (“States have a right of self-defense so that they can protect their national security and deter attacks against them, concerns that are implicated just as much when States are subjected to indiscriminate attacks as when they are subjected to targeted attacks.”).

482. See, e.g., Kenneth W. Simons, *Self-Defense: Reasonable Beliefs or Reasonable Self-Control?*, 11 NEW CRIM. L.REV. 51, 53 (2008). See also U.S. Model Penal Code § 3.04 (“The use of force in self-defense is permitted when it is necessary as a means of protection against the use of unlawful force by another. One may only use the amount of force necessary to protect against the threatened unlawful harm”). For example, in most U.S. states, a self-defense claim provides complete exoneration for a claimant’s use of force if (a) the claimant honestly and reasonably believed that the use of force was necessary; and furthermore (b) the claimant honestly and reasonably believed that the amount of force used was necessary. Simons, *supra* note 482, at 52-53. France similarly requires both a subjective and objective test of self-defense. Simons, *supra* note 482, at 52, n.2 (citations omitted). The U.K. and a few U.S. states require that the claimant prove only his or her subjective belief in the propriety of the use of the force and the amount of force used. Simons, *supra* note 482, at 52. In Germany, the claimant must prove the two elements of “necessity” and “proportionality”, but, with respect to the “proportionality” element, he or she is required only to prove that his or her use of force was not grossly disproportionate to the threat. Simons, *supra* note 482, at 52.

483. See, e.g., *In re Christian S.*, 7 Cal. App. 4th 768, 778 (1994) (“An honest but unreasonable belief that it is necessary to defend oneself from imminent peril to life

will not be completely exonerated but rather will be found guilty of a lesser crime.⁴⁸⁴

No country which recognizes the principle of self-defense in domestic criminal law requires the party claiming self-defense to prove that the aggressor intended to harm the claimant. For example, if a person accidentally releases a machete in the direction of the claimant rather than intentionally throwing it in the direction of the claimant, the claimant would be entitled to attempt to stop the machete from reaching him or her, even if, in doing so, he or she harmed the person who accidentally released the machete. The claimant faces the same threat of harm, whether the other party's actions were intentional or accidental. In short, there is no "intent" requirement in domestic self-defense law and there is no reason to include an intent requirement in international self-defense law.

b. Exceptions to Trespass in International and Domestic Law

As this article contemplates a target State's use of force in the locus State, arguably it is more appropriate to analyze such a use of force according to property law concepts, such as trespass and eminent domain. In fact, the international community already recognizes several different "emergency exceptions" to trespass.⁴⁸⁵

or great bodily injury negates malice aforethought, the mental element necessary for murder, so that the chargeable offense is reduced [under the theory of imperfect self-defense] to Penal Code 192 manslaughter."); *see also*, California Criminal Jury Instruction 571 (Voluntary Manslaughter: Imperfect Self-Defense or Imperfect Defense of Another, "A killing that would otherwise be murder is reduced to voluntary manslaughter if the defendant killed a person because (he/she) acted in (imperfect self-defense/ [or] imperfect defense of another). If you conclude the defendant acted in complete (self-defense/ [or] defense of another), (his/her) action was lawful and you must find (him/her) not guilty of any crime. The difference between complete (self-defense/ [or] defense of another) and (imperfect self-defense/ [or] imperfect defense of another) depends on whether the defendant's belief in the need to use deadly force was reasonable. The defendant acted in (imperfect self-defense/ [or] imperfect defense of another) if: 1 The defendant actually believed that (he/she/ [or] someone else/ {insert name of third party}) was in imminent danger of being killed or suffering great bodily injury; AND 2 The defendant actually believed that the immediate use of deadly force was necessary to defend against the danger; BUT 3 At least one of those beliefs was unreasonable.")

484. *See In re Christian S.*, at 778.

485. *See infra* §§ II.C.2.v.b(1)-II.C.2.v.b(5).

(1) Non-Refoulement

To begin with, the customary international law principle of “*non-refoulement*” requires any country to permit into its territory any person who has reached its shores and can demonstrate that he or she possesses a well-founded fear of persecution in his or her home country based on any one of several bases.⁴⁸⁶ While otherwise a refugee’s entry into a foreign country would be considered a trespass in domestic property law (entry onto private property without the permission of the landowner⁴⁸⁷), the principle of *non-refoulement* constitutes an emergency exception to the law of trespass.

(2) Safe Harbors on the Sea and in the Air

Similarly, most countries have entered into the Convention on International Civil Aviation (otherwise known as the Chicago Convention)⁴⁸⁸ and the United Nations Convention on the Law of the Sea (“UNCLOS”)⁴⁸⁹ which provide a “safe harbor” in any airport or seaport in the world in the event of any emergency.⁴⁹⁰ These are

486. Convention Relating to the Status of Refugees art. 33(1), July 28, 1951, 19 U.N.T.S. 6259 (“No Contracting State shall expel or return (“refouler”) a refugee in any manner whatsoever to the frontiers of territories where his life or freedom would be threatened on account of his race, religion, nationality, membership of a particular social group or political opinion.”).

487. *See, e.g.*, *Allred v. Harris*, 14 Cal. App. 4th 1386, 1390 (“As a general rule, landowners and tenants have a right to exclude persons from trespassing on private property; the right to exclude persons is a fundamental aspect of private property owners.”); *Capogeannis v. Superior Court*, 12 Cal. App. 4th 668, 674 (1993) (“A trespass is an invasion of the interest in the exclusive possession of land, as by entry upon it. . . .”); *Staples v. Hoefke*, 189 Cal. App. 3d 1397, 1406 (1987) (“Trespass is an unlawful interference with possession of property”).

488. Convention on International Civil Aviation, Dec. 7, 1944, 61 Stat 1180, 15 U.N.T.S. 295 (*entered into force* April, 4 1947), <http://www.icao.int/publications/pages/doc7300.aspx> [hereinafter Chicago Convention].

489. UNCLOS, *supra* note 147. UNCLOS codified the customary international principle of *force majeure*, which countries had respected for hundreds of years prior to the adoption of the UNCLOS. *See, e.g.*, Christopher F. Murray, *The Right of Entry for Reasons of Force Majeure or Distress in the Wake of the Erika and the Castor*, 63 OHIO STATE L. J. 1465, 1466 n.3-5 (2002).

490. *See* Chicago Convention, *supra* note 488, at art. 25. Article 25 provides:

additional examples of the international community recognizing exceptions to trespass into their territories.

(3) States' Rescues of their Nationals on Foreign Soil

The international community for hundreds of years has permitted the entry into another country for the purpose of rescuing a national when the host country is unwilling or unable to protect that national from harm.⁴⁹¹ In general, this practice has been justified on the basis

Each contracting State undertakes to provide such measures of assistance to aircraft in distress in its territory as it may find practicable, and to permit, subject to control by its own authorities, the owners of the aircraft or authorities of the State in which the aircraft is registered to provide such measures of assistance as may be necessitated by the circumstances.

Id. See also UNCLOS, *supra* note 147, at art. 17. Articles 17-18 of the UNCLOS likewise provide:

Subject to this Convention, ships of all States, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea. . . . Passage shall be continuous and expeditious. However, passage includes stopping and anchoring, but only in so far as the same are incidental to ordinary navigation or are rendered necessary by *force majeure* or distress or for the purpose of rendering assistance to persons, ships or aircraft in danger or distress.

Chicago Convention, *supra* note 488, at art. 25.

491. See text accompanying *supra* note 449; see also D.W. BOWETT, *SELF-DEFENSE IN INTERNATIONAL LAW* 87 (Praeger 1958). The International Law Commission (ILC) studied the subject of diplomatic protection, and in the course of that study incidentally considered the rescue of nationals abroad. Thomson, *supra* note 449, at 645. The ILC's Report, under the direction of Special Rapporteur J.R. Dugard, concluded that "the use of force [was] . . . an acceptable means of diplomatic protection for the purpose of the 'rescue of nationals.'" Thomson, *supra* note 449, at 645. Draft Article 2 of this report states:

The threat or use of force is prohibited as a means of diplomatic protection, except in the case of the rescue of nationals where: (a) The protecting State has failed to secure the safety of its nationals by peaceful

of the customary international principle of self-defense, as an attack on a foreign national was considered to be an attack on that national's country.⁴⁹² However, over the years, such rescues have been justified under a number of legal theories,⁴⁹³ including as a "qualified privilege of necessity", which provides a right to rescue one's national in a foreign host nation even if that host nation has exercised due diligence in attempting to protect that national.⁴⁹⁴ This legal basis is very similar to the doctrine (discussed below) of a privileged trespass in U.S. domestic law.⁴⁹⁵

means; (b) The injuring State is unwilling or unable to secure the safety of the nationals of the protecting State; (c) The nationals of the protecting State are exposed to immediate danger to their persons; (d) The use of force is proportionate in the circumstances of the situation; (3) The use of force is terminated, and the protecting State withdraws its forces, as soon as the nationals are rescued.

Thomson, *supra* note 449, at 645 (quoting John R. Dugard, Special Rapporteur on Diplomatic Protection, INT'L LAW COMM'N, U.N. Doc. A/CN.4/506 (Mar. 7, 2000)).

492. *See, e.g.*, Kunig, *supra* note 265, at ¶ 6.

493. *See, e.g.*, Thomson, *supra* note 449, at 640.

494. BOWETT, *supra* note 491, at 89-90.

495. *See infra* § II.A.1.v.b(4). Presumably many rescues abroad are kept out of the news in order to increase the chances of the rescue's success and perhaps protect sensitive information, but there are many well-known examples of rescues of nationals in foreign territories both in past years and recent years. For example, the U.S. Government rescued U.S. citizens from Cuba in 1898 and from Haiti in 1915. *See, e.g.*, BOWETT, *supra* note 491, at 97-98. Examples in more recent years include Israel's rescue of its nationals in Entebbe, Uganda in 1976 and the U.S.' attempted rescue of its nationals in Tehran, Iran in 1980. *See* U.N. SCOR, 31st Sess., 1939th mtg. at 14, U.N. doc. S/PV.1939 (July 9, 1975) (U.N. Security Council statement approving of Israel's raid on the basis of defense of its nationals in accordance with Article 51 of the UNC); NATALINO RONZITTI, RESCUING NATIONALS ABROAD THROUGH MILITARY COERCION AND INTERVENTION ON GROUNDS OF HUMANITY 45 (Martinus Nijhoff Pub. 1985) (In defending his authorization of the rescue mission to the U.S. Congress, then President Carter stated: "In carrying out this operation, the United States was acting wholly within its right, in accordance with Article 51 of the [UNC], to protect and rescue its citizens where the government of the territory in which they are located is unable or unwilling to protect them."). For a number of years, the former Soviet Union criticized Western nations "who purported to exercise the right to protect nationals abroad." Thomson, *supra* note 449, at 659. In contrast, its successor, the Russian Federation, has embraced the doctrine and rescued a

As indicated, the doctrine permitting States to rescue their nationals abroad is very well-accepted.⁴⁹⁶ Furthermore, it provides a particularly close analogy to the right of a target State to protect its nationals and environment at home who are threatened by an environmental emergency in another, locus State. In both cases, the victim State's nationals are threatened with severe harm emanating from a foreign State and, generally speaking, that foreign State is unwilling or unable to protect the victim State's nationals. Like the international community recognizes the doctrine of rescuing nationals abroad, it should recognize the right of a target State (or a multilateral force) to enter a locus State to remediate a MIEE.

(4) Trespass for Necessity/Abatement of a Nuisance

A very old concept in domestic property law is that a person is entitled to enter a private property owner's land without the landowner's permission if necessary to avoid injury to persons or property.⁴⁹⁷ Such a trespass is referred to as a "trespass by necessity." This doctrine assumes that the owner bears no responsibility for the trespasser's emergency and hence the trespasser is required to reimburse the owner for any damages incurred as a result of his or her trespass.⁴⁹⁸ By way of analogy, if a target State (or a multilateral force) were to enter a locus State to investigate a MIEE and it was then determined that a MIEE was not occurring, then the target State or multilateral force could be required to reimburse the multilateral force and/or the locus State for the costs incurred in the investigation. On the other hand, the *Chicago Convention* and the *UNCLOS* do not provide for the owner of the vessel in distress to pay compensation to a foreign nation when the owner utilizes a foreign port in an emergency, presumably because each signatory is benefitted as well as burdened by these reciprocal rights of trespass (or easements).⁴⁹⁹

number of Russian nationals from Georgia and elsewhere in recent years. See Thomson, *supra* note 449, at 659-662.

496. See, e.g., Kunig, *supra* note 265, at ¶ 6.

497. See, e.g., *River Wear Commissioners v. Adamson*, (1877) 2 App. Cas. 743; *Southport Corporation v. Esso Petroleum Co., Ltd.*, 3 W.L.R. 773, (Develin J.), 2 Q.B. 82, C.A. (1954), A.C. 218, H.L. (1956).

498. See, e.g., *River Wear Commissioners; Southport Corporation*.

499. See *Chicago Convention*, *supra* note 488; *UNCLOS*, *supra* note 147.

In domestic property law, an easement to abate a private or public is perhaps even more *apropos* to the situation where a MIEE occurring in a locus State is threatening to cause widespread harm to one or more target States. An easement to abate a nuisance is an easement which permits the government representing the victim(s) to enter the land of the culpable owner and abate the nuisance.⁵⁰⁰ A private nuisance is defined as “a substantial non-trespassory invasion of another’s interest in the private use and enjoyment of land and is either ‘intentional and unreasonable’ or ‘unintentional and otherwise actionable under the principles controlling liability for negligent or reckless conduct, or for abnormally dangerous conditions or activities.’”⁵⁰¹ A public nuisance (which, from the perspective of this article, is the more applicable type of nuisance) is “the invasion of rights which one possesses as a member of the public.”⁵⁰² Similarly, if a MIEE is occurring in a locus State and that emergency is threatening the nationals or environment of one or more target States, the target State(s), or a multilateral force on their behalf, should be permitted to enter the locus State and abate the nuisance.

(5) The Precautionary Principle

As discussed above, the precautionary principle holds that it is better to err on the side of caution when making decisions regarding protection of the environment. Again, this principle holds that, “[w]here there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”⁵⁰³ This principle likewise supports allowing a target State or a multilateral force to enter a locus State to investigate and then remediate a MIEE if necessary.

500. *See, e.g.*, *Eccles v. Ditto*, 23 N.M. 235, 249 (N.N. 1917).

501. John E. Bryson & Angus Macbeth, *Public Nuisance, the Restatement (Second) of Torts, and Environmental Law*, 2 *ECOLOGY L. Q.* 241, 264-65 (1972) (citing Restatement (Second) of Torts § 822); *see also* California Civil Jury Instruction CACA 2021.

502. *See* Bryson & Macbeth, *supra* note 501, at 242, n.1.

503. *See supra* § II.A.

III. SOLUTION: THE GREEN HELMETS

As indicated above, the international community likely will experience an increasing number of MIEEs in the coming years.⁵⁰⁴ International law at present does not provide a clear remedy when a MIEE is occurring in a locus State and that MIEE threatens widespread harm to one or more target States.

When a serious environmental emergency occurs somewhere in the world, most governments and nationals around the world will want to know the following information:

- 1) Which pollutant(s) was/were released in the locus State?
- 2) Is any of the pollutants released capable of causing significant harm to people or the environment in general?
- 3) If the answer to question 2 is in the affirmative, will the pollutant(s) reach their State if the locus State takes no action?
- 4) If the answer to question 3 is in the affirmative, will the locus State be willing and able to halt the spread of the pollutant(s) to their State, a target State?
- 5) If the answer to question 4 is in the negative, will their nationals or environment suffer major harm as a result?
- 6) If the answer to question 5 is in the affirmative, can any group anywhere in the world prevent the pollutant(s) from reaching the target State, and if so, what is that group?

In addition, if the answer to question 6 is in the affirmative, the government and nationals of any target State most likely would desire that a group of the most knowledgeable environmental experts in the world, using the most effective tools and equipment, attempt to halt the spread of the pollutant(s) to their target State.

Unfortunately, the government and nationals of any target State threatened with such harm typically cannot obtain accurate information regarding such an accident.⁵⁰⁵ Also, the locus State often refuses to accept external assistance in its remediation and clean-up

504. See text accompanying *supra* notes 1-3.

505. See *supra* § I.A.

efforts.⁵⁰⁶ At the same time, the U.N. Security Council would possess the power to order a multilateral force to enter the locus State and investigate the accident and attempt to remediate it, if need be.⁵⁰⁷ However, regardless of the harm threatening the target States and the world in general, any one of the five permanent members of the Security Council could veto any resolution authorizing such enforcement action, especially if the locus of the accident is its own territory.⁵⁰⁸ A target State most likely would be entitled to enter a locus State to remediate an emergency determined to be a MIEE,⁵⁰⁹ but it very well could find it impossible to determine whether a MIEE has occurred without first entering the locus State to investigate the situation. Furthermore, the locus State could deny the target State permission to enter its territory.⁵¹⁰ At the same time, it's safe to say that no State wants some other national or multinational body to direct remediation and clean-up efforts every time a pollutant is released within its territory. Taking these various concerns into account, a new scheme for handling major international environmental emergencies is necessary.

Here, it is proposed that the international community sign a new treaty in which it authorizes the United Nations Environment Programme (UNEP) to enter the locus State following an environmental accident, whenever any other State requests that UNEP enter the locus State to investigate whether the accident is a MIEE. Any State which desires that UNEP investigate such an accident should deliver its request for the same to the Committee of Permanent Representatives (CPR) of the U.N. Environmental Assembly. The CPR will, in turn, deliver the request to UNEP and organize UNEP's visit to the locus State.

UNEP is the logical multilateral organization to perform this task, as it has been the voice for the environment on the international level⁵¹¹

506. *See supra* § I.A.

507. *See supra* § II.C.1.

508. *See* text accompanying *supra* notes 373-375.

509. *See supra* § II.C.2.v.

510. *See supra* § II.C.2.v.

511. UNEP, United Nations Environment Programme Annual Report 2015 United Nations, at 5 (2016).

since its creation in 1972,⁵¹² and it can immediately coordinate and deliver a wide range of expert personnel, equipment, mobile laboratories, chemicals, products and services to any location in the world.⁵¹³ In the event of a nuclear accident, UNEP would perform these tasks in coordination with personnel from the IAEA and UNSCEAR, two U.N. agencies already charged with providing timely, unbiased information regarding a nuclear accident and helping to abate any radiation fallout from such an accident.⁵¹⁴

UNEP already exists, so the international community would not need to create it or locate funding for it. Moreover, it is a multinational organization,⁵¹⁵ so it would have no bias toward either the locus State

512. UNEP was established by U.N. G.A. Res. 2997 (XXVII) at 43 (Dec. 15, 1972). *Dag Hammarskjöld Library Research Guides: UN Documentation: Environment*, U.N., <http://research.un.org/en/docs/environment/unep> (last visited July 11, 2016).

513. Environmental Emergencies: Learning from Multilateral Response to Disaster, OCHA 9-10, 13, 16 (Feb 16, 2009), https://www.unocha.org/sites/unocha/files/EnvEm_LearningFromMultilateralResponse.pdf; Guidelines for Environmental Emergencies, Version 1, Joint UNEP/OCHA Environment Unit, U.N., at 5 (2009) [hereinafter Environmental Emergencies].

514. The IAEA was established as an autonomous international organization through a treaty referred to as the IAEA Statute on October 23, 1956, and it became operational on July 29, 1957. Int'l Atomic Energy Agency (IAEA) Statute, 276 UNTS 3; About the Statute of the IAEA, <https://www.iaea.org/about/about-statute> (last visited July 11, 2016). Its mandates are to promote the peaceful use of nuclear energy, prevent the use of nuclear energy for any military purpose, and encourage countries to adopt nuclear safety standards. *Id.* at arts. II, III, XII. Although technically not a United Nations entity, the IAEA reports to both the United Nations General Assembly and the Security Council. The United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) was established by the United Nations General Assembly in 1955. UNGC Res. 913 (X) (Dec. 3, 1955). Report of the U.N. Scientific Committee on the Effects of Atomic Radiation, Fifty-sixth session (July 10-18, 2008) to the U.N. G.A., Sixty-third Session, Supp. No. 46, http://www.iaea.org/inis/collection/NCLCollectionStore/_Public/41/084/41084475.pdf (clarifying that “the mandate of the Committee has been to undertake broad reviews of the sources of ionizing radiation and of the effects of that radiation on human health and the environment. In pursuit of its mandate, the Committee thoroughly reviews and evaluates global and regional exposures to radiation; and it evaluates evidence of radiation-induced health effects in exposed groups. . . . The Committee also reviews advances in the understanding of the biological mechanisms by which radiation-induced effects on health or on the environment can occur.”).

515. See UNEP, *supra* note 511; CHARLES L. HARPER & MONICA SNOWDEN, ENVIRONMENT AND SOCIETY 310 (Routledge 6th 3d. 2017).

or any particular target State in investigating and remediating any MIEE.⁵¹⁶ Furthermore, UNEP already works in combination with the U.N.'s Office of Coordination of Humanitarian Assistance (OCHA) in an entity called the Joint Environmental Unit (JEU).⁵¹⁷ The JEU could

516. Note that, at present, UNEP, on its own, has no power to enter a State without the permission of the government of that State. See, e.g., Frank N. Laird, *Information and Disaster Prevention*, in *LEARNING FROM DISASTER: RISK MANAGEMENT AFTER BHOPAL* 221 (U. Penn U. Press 1994).

517. Environmental Emergencies, *supra* note 513, at 1. In 1992, the U.N. Centre for Urgent Environmental Assistance was established in Geneva on a trial basis. Environmental Emergencies, *supra* note 513, at 8. The Centre reviewed the international response to environmental emergencies during the previous ten years and identified many deficiencies. Environmental Emergencies, *supra* note 513, at 8. One of the main recommendations of this study was that the United Nations should provide its environmental and humanitarian assistance in a more coordinated manner, and, as a result, the Joint Environmental Unit ("JEU"), consisting of UNEP and the U.N. Department for Humanitarian Affairs was established in 1993. JEU became operational in 1994. Environmental Emergencies, *supra* note 513, at 9. Then, in 1998, the U.N. Department for Humanitarian Affairs was reconstituted as the Office for the Coordination of Humanitarian Assistance. Environmental Emergencies, *supra* note 513, at 9. Both UNEP and the OCHA have large staffs of environmental disaster experts, and the JEU can also rely on many other governmental organizations and non-governmental organizations (NGOs) who are available to assist in an environmental emergency. See, e.g., *Tools and Services for Disaster Response*, in *ASIA DISASTER RESPONSE*, at Ch. 3, U.N. OCHA, <https://www.unocha.org/sites/unocha/files/dms/ROAP/Promotional%20Materials/The%20Guide-Web-FINAL.pdf> (stating that "[a] range of international technical teams can be mobilized within hours of a disaster to support a Government's relief efforts"); Environmental Emergencies, *supra* note 513, at 12, 18, 40, 66 (indicating that both UNEP and the OCHA can call upon staff in offices all around the world to provide assistance in environmental emergencies). For example, personnel in Green Cross International offices in thirty-four offices around the world routinely assist the JEU regarding environmental emergencies. Environmental Emergencies, *supra* note 513, at 13. The JEU is available twenty-four hours a day, seven days a week, three-hundred and sixty-five days a year. Environmental Emergencies, *supra* note 513, at 13. Since its inception in 1994, the JEU has provided assistance on environmental emergencies in 84 countries. Rene Nijenhuis, *The International Environmental Emergencies Response System: A Case Study of Super typhoon Haiyan (Yolanda), the Philippines*, 6 *ASIAN J. OF ENVT. AND DISASTER MGMT.* 175, 175 (2014), http://www.eecentre.org/Modules/EECRResources/UploadFile/Attachment/AJEDM_vol6_no2_Environmental_Emergencies.pdf. In addition to helping countries combat environmental emergencies through the JEU, UNEP provides a wide range of services and advice regarding how to avoid and prepare for environmental emergencies. See, e.g., *Disasters and Conflicts, Why Does Risk Reduction Matter*,

enter the locus State if the locus State desires OCHA's humanitarian assistance. When UNEP, or JEU, as applicable, investigates and remediates international environmental emergencies, it could be known as the "U.N. green helmets"⁵¹⁸ in reference to the U.N. peacekeepers who are known as the "U.N. blue helmets."⁵¹⁹

After receiving a request to investigate an environmental accident, UNEP would enter the locus State and determine as quickly as possible whether a MIEE exists with respect to any target State which has requested this information. UNEP would declare that a MIEE exists with respect to any particular target State when:

UNEP, <https://www.unenvironment.org/explore-topics/disasters-conflicts/what-we-do/risk-reduction/why-does-risk-reduction-matter> last visited July 11, 2016) (stating that "UNEP works to prevent and reduce the impacts of disasters on vulnerable communities and countries through improved ecosystems management."). Furthermore, UNEP has many years of experience helping countries recover and rebuild following an environmental emergency. *See, e.g., Disasters and Conflicts, About Us*, UNEP, <http://www.unep.org/disastersandconflicts/> (last visited July 11, 2016) (see activities described under in sections labelled "Post-Crisis Environmental Assessment" and "Post-Crisis Environmental Recovery").

518. *See, e.g.,* Malone, *Conceptual Framework*, *supra* note 353, at 519. Various writers have used the adjective "green" to describe a group of environmental experts ready to assist with environmental emergencies around the world. For example, former U.S.S.R. President Mikhail Gorbachev, following the Chernobyl nuclear accident, established a group in 1992 called "Green Cross International," which he described as a "Red Cross for the environment." *Our History*, GREEN CROSS INT'L, <http://www.gcint.org/who-we-are/our-history/> (last visited July 11, 2016). At approximately the same time, Roland Widerkehr, a Swiss parliamentarian, founded an organization with the same objective called "World Green Cross." *Id.* In 1993, these two organizations merged to form the organization Green Cross International (GCI). *Id.* GCI experts are available to assist countries with environmental emergencies at the invitation of such countries, and today there are GCI offices in more than thirty countries. *Id.* In addition, a few people and entities have directly proposed the creation of an international team of environmental experts to be known as the "green helmets." *See, e.g.,* MIKHAIL GORBACHEV & GREEN CROSS INTERNATIONAL, MIKHAIL GORBACHEV: PROPHET OF CHANGE 44 (Clearview Books 2011) (noting that Austria at one point proposed the creation of "international protection units called 'U.N. Green Helmets.'"); Malone, *Conceptual Framework*, *supra* note 353 (arguing that the U.N. Security Council's mandate be interpreted so as to permit the creation of a "green helmet" international environmental force).

519. *Military*, United Nations Peacekeeping, <https://peacekeeping.un.org/en/military> (last visited Nov. 27, 2017) (referring to U.N. peace-keepers as "blue helmets" because they wear blue helmets when they serve in this role).

- A. There is at least a 40% chance⁵²⁰ that the target State will suffer “major environmental harm” due to the environmental accident unless remedial action is taken; and
- B. There is at least a 40% chance⁵²¹ that the locus State will be unwilling or unable to prevent such “major environmental harm” from occurring.

If UNEP declares that a MIEE exists with regard to one or more target State(s), UNEP will proceed to remediate the emergency so long as:

- A. The benefits of conducting the remediation exercise outweigh the harm that the exercise could cause; and
- B. At least one target State wishes UNEP to remediate the emergency. Any time that 100% of the target State(s) threatened with major environmental harm from a particular emergency desire that some other agency (*e.g.*, a regional agency such as the ASEAN Co-ordinating Centre for Transboundary Haze Pollution⁵²²) attempt to remediate the emergency, that other agency, rather than UNEP, will do so.

In this proposal, “major environmental harm” is defined as:

- (a) The death or catastrophic injury of twenty-five (25) or more humans; or
- (b) The devastation of the environment.

The “catastrophic injury of a human being” is defined as “any injury that results in permanent disability, long-term medical problems or shortened life expectancy.”⁵²³

The environment will be considered to be “devastated” if:

520. A percentage rate of less than 50% is used in order to promote protection of the environment in accordance with the precautionary principle (Rio Declaration, *supra* note 251, Principle 15), and a 40% figure indicates that the risk of this event nonetheless is substantial.

521. Rio Declaration, *supra* note 251, Principle 15

522. AATHP, *supra* note 200, at art. 12 and Annex.

523. AMERICAN MEDICAL ASSOCIATION, GUIDES TO THE EVALUATION OF PERMANENT IMPAIRMENT (Amer. Med. Assn. 6 ed. 2007).

- (i) 5% or more of the land mass of the country will be unfit for human, animal, or plant habitation for 10 years or more as a result of the accident; or
- (ii) 5% or more of the fresh water resources in the country will be unfit for human, animal, or plant consumption for 10 years or more as a result of the accident; or
- (iii) 5% or more of the marine life of the country over the course of the next 10 years will die, be deformed, or have a shortened life expectancy as a result of the accident; or
- (iv) 5% or more of the land animals in the country over the course of the next 10 years will die, be deformed, or have a shortened life expectancy as a result of the accident; or
- (v) 5% or more of the air in the country will be unfit for human, animal, or plant consumption for 10 years or more as a result of the accident.

Without question, the key to this proposed scheme is an acceptable definition of a “major environmental harm” that demonstrates proper respect for each nation’s environment as well as each nation’s sovereignty. The definition of “major environmental harm” proposed here attempts to satisfy these concerns. This definition takes into account injury to land, water, and air. It also considers effects on all three types of living organisms – humans, animals, and plants. Finally, this definition is derived from a number of international law sources. These include, for example, the ICJ’s adoption over time of a definition of “armed attack” that essentially is an “effects test”, *i.e.*, if a State suffers “considerable loss of life and extensive destruction of property [at the hands of another State],” then an armed attack in the sense of Article 51 of the UNC has occurred.⁵²⁴ The definition proposed here is also based on the prohibition, during war, against intentionally causing, or engaging in actions expected to cause, “severe, widespread, and long-lasting environmental harm” contained in Article 35(3) of the Additional Protocol 1 to the Geneva

524. *See* ZEMANEK, *supra* note 424, at ¶ 10 (citing A. CONSTANTINOU, *THE RIGHT OF SELF-DEFENCE UNDER CUSTOMARY INTERNATIONAL LAW*, 63-64 (Sakkoulas Athènes 2000)).

Conventions⁵²⁵ and the similar prohibition against the “military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects” contained in Article I of the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD).⁵²⁶ Finally, this definition is supported by the factors that the U.N. High Level Panel on Threats, Challenges and Change suggested the Security Council consider in determining whether various situations constitute threats to peace,⁵²⁷ the factors that Daniel Bethlehem proposed States consider in determining whether an armed attack is imminent and if so, whether it should be responded to,⁵²⁸ and the factors that the drafters of the

525. Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I), June 8, 1997, 1125 U.N.T.S. 3, art. 35(3).

526. Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD), art. I, Dec. 10, 1976, 1108 U.N.T.S. 151, art. I.

527. UNITED NATIONS, A MORE SECURE WORLD: ONE SHARED RESPONSIBILITY: REPORT OF THE HIGH-LEVEL PANEL ON THREATS, CHALLENGES, AND CHANGE ¶ 207(a)-(e), U.N. G.A. 59th Sess., U.N. Doc. A/59/565 (Dec. 2004), http://www.un.org/en/peacebuilding/pdf/historical/hlp_more_secure_world.pdf (“In considering whether to authorize or endorse the use of military force, the Security Council should always address - whatever other considerations it may take into account - at least the following five basic criteria of legitimacy: (a) *Seriousness of threat*. Is the threatened harm to State or human security of a kind, and sufficiently clear and serious, to justify *prima facie* the use of military force? In the case of internal threats, does it involve genocide and other large-scale killing, ethnic cleansing or serious violations of international humanitarian law, actual or imminently apprehended? (b) *Proper purpose*. Is it clear that the primary purpose of the proposed military action is to halt or avert the threat in question, whatever other purposes or motives may be involved? (c) *Last resort*. Has every non-military option for meeting the threat in question been explored, with reasonable grounds for believing that other measures will not succeed? (d) *Proportional means*. Are the scale, duration and intensity of the proposed military action the minimum necessary to meet the threat in question? (e) *Balance of consequences*. Is there a reasonable chance of the military action being successful in meeting the threat in question, with the consequences of action not likely to be worse than the consequences of inaction?”).

528. Daniel Bethlehem, comment, *Principles Relevant to the Scope of a State’s Right of Self-Defense Against an Imminent or Actual Armed Attack*, 106 AMER. J. INT’L LAW 770, 775-76 (2012) (stating, in his Principle 8 that “[w]hether an armed attack may be regarded as ‘imminent’ will fall to be assessed by reference to all relevant circumstances, including (a) the nature and immediacy of the threat, (b) the

International Commission on Intervention and State Sovereignty (ICISS) proposed that the Security Council consider in determining whether various situations constitute threats to peace.⁵²⁹

CONCLUSION

Unfortunately, the international community likely will experience an increasing number of major international environmental emergencies in the coming years.⁵³⁰ As discussed at length above, international law at present does not provide any clear plan for how the international community should proceed when such an emergency occurs in a locus State and that emergency threatens to cause widespread harm to one or more target States. The U.N. Security Council most likely would possess the power to order a multilateral force to enter the locus State and investigate and remediate the emergency, if necessary.⁵³¹ However, any of the five permanent

probability of an attack, (c) whether the anticipated attack is part of a concerted pattern of continuing armed activity, (d) the likely scale of the attack and the injury, loss, or damage likely to result therefrom in the absence of mitigating action, and (e) the likelihood that there will be other opportunities to undertake effective action in self-defense that may be expected to cause less serious collateral injury, loss, or damage. The absence of specific evidence of where an attack will take place or of the precise nature of an attack does not preclude a conclusion that an armed attack is imminent for purposes of the exercise of a right of self-defense, provided that there is a reasonable and objective basis for concluding that an armed attack is imminent.” “The ‘reasonable and objective’ formula – in paragraph . . . 8 – requires that the conclusion is capable of being reliably supported with a high degree of confidence on the basis of credible and all reasonably available information.” *Id.*

529. ICISS, *THE RESPONSIBILITY TO PROTECT* 32, ¶ 4.19 (Dec. 2001), <http://responsibilitytoprotect.org/ICISS%20Report.pdf> (stating “military intervention for human protection purposes is justified in two broad sets of circumstances, namely in order to halt or avert: large scale loss of life, actual or apprehended, with genocidal intent or not, which is the product either of deliberate state action, or state neglect or inability to act, or a failed state situation; or large scale “ethnic cleansing,” actual or apprehended, whether carried out by killing, forced expulsion, acts of terror or rape[]”). The International Commission on Intervention and State Sovereignty (ICISS) explicitly stated that the following would fall within these parameters: “overwhelming natural or environmental catastrophes, where the state concerned is either unwilling or unable to cope, or call for assistance, and significant loss of life is occurring or threatened.” *Id.* at 33, ¶ 4.20.

530. *See* text accompanying *supra* notes 1-3.

531. *See supra* II.C.1.

members of the U.N. Security Council could veto a resolution authorizing such action.⁵³² On the other hand, while a target State that is actually threatened with widespread harm should possess the power to enter the locus State to protect its own nationals and environment, the locus State could prevent the target State from entering for the purpose of determining the level of threat.⁵³³ This article proposes the adoption of a new treaty that would provide a workable plan for how the international community should respond to possible major international environmental emergencies in the future. While the details of such a treaty undoubtedly would evolve over time, it is hoped that this article will initiate serious consideration of such a treaty.

532. See text accompanying *supra* notes 373-375.

533. See *supra* § II.C.2.v.