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[ABSTRACT]

Please let me start by thanking Professor Byungchun So and the Korean Environmental Law Association for this invitation to speak at this, your 108th Conference. The Korean Environmental Law Association is recognized throughout the world as a leading promoter of environmental law.

I am going to speak on the international law relating to the management of environmental damages from natural disasters, with a particular emphasis on post-management issues arising after the disaster occurs. I will end with a few words on the US law.

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I. Scale of natural disasters:

First, let me say a few words about the global scale of natural disasters. Within the past decade or so, the world has seen a tremendous number of huge and significant disasters, particularly I would say in the East Asia and South Asia regions.

- We have just recognized the one-year anniversary of the 2011 Japan earthquake and tsunami that killed nearly 20, 000 people and destroyed the Fukushima nuclear power plant;
- In 2008, tropical cyclone Nargis caused 140, 000 deaths in Myanmar;
- Also in 2008 the earthquake in china killed 88, 000, injuring more than 365, 000;
- Of course, in my country New Orleans has yet to recover from the 2005 Hurricane Katrina that reportedly resulted in \$81 billion in property damages (although it killed less than 2000.
- O The December 24, 2004 Indian Ocean tsunami killed nearly 240,000 people in Indonesia, Thailand and ten other countries from South Asia and East Africa.

Between 1975 and 2008, the International Emergency Disasters Database chronicled 88, 000 reported disasters with 2.2. million deaths and \$1.5 trillion dollars. Of those, 23 were considered mega-disasters killing 1.786,000 people (nearly 75% of the total) mainly in developing countries

The number of natural disasters may not be rising significantly, but what is definitely increasing is the impacts from disasters. The impacts have risen due to a combination of growing populations, particularly in coastal regions, strains on aging infrastructure, poor urban planning and widespread urban poverty, and

more recently the potentially exacerbating effects of climate change.

This understanding of the rising impacts from natural disasters highlights an important point about disasters in the 21st century: the line between man-made disasters and natural disasters has blurred, and there is perhaps little reason (except perhaps for purposes of liability and compensation) to think of them differently in the international context. To be sure, the scope and scale of the impacts of any natural disasters depends not only on the size of the natural disaster but on a series of human actions that will either increase or decrease the vulnerability of affected populations. The Japanese tsunami was undoubtedly a 'natural' disaster, but the types of impacts, most notably, the impacts on Fukushima nuclear reactor, were the result of man-made decisions and activities. So, too, the impacts from the 2011 Cyclone Nargis were greatly dependent on the effectiveness (or ineffectiveness) of the response by the Myanmar military regime. This has been recognized for sometime in international policy discussions that the ultimate impacts of so-called natural disasters will depend on the relative vulnerability of the affected population (which is determined by physical, social, economic and environmental factors-many of which are controllable by human actions).

The line is also blurring between the causes of what we used to think were clearly "natural" disasters: droughts, floods, hurricanes or earthquakes for example. Today, however, we recognize that the intensity and frequency of droughts, floods and hurricanes may be affected by man-made climate change. In the future era of global climate change, the differentiation between natural and man disasters may disappear. What we call "the end of nature" (due to the far-reaching impact of climate change) also means the end of what can be considered solely "natural" disasters. As an aside, the Washington Post newspaper the day I was leaving for this trip reported that nearly a dozen earthquakes occurring last year in the eastern state of Ohio were caused by new methods of natural gas drilling

associated with hydraulic fracking.

This blurring of the line has led most international law treatments of disasters to avoid any differentiation between natural and man-made disasters. This may be the wise approach for issues relating to prevention, risk assessment and management and disaster preparedness, but the distinction between man-made and natural disasters may still be important for issues related to attributing liability or compensation. It also means that we have to manage disaster risk in the context of other risks that also need managing, for example climate change, food and agricultural security policy, poverty inequities, and financial and economic risks.

It is important to note at the outset that there is no overarching international law relating to responses to natural disasters. Perhaps the departure point for understanding the international approach to natural disasters is the *Hyogo Framework for Action 2005–2015: Building the Resilience of Nations and Communities to Disasters, the Final Report of the 2004 World Conference on Disasters,* the Final Report of the 2004 World Conference on *Disasters,* the Final Report of the 2004 World Conference on *Disasters,* the Final Report of the 2004 World Conference on *Disasters,* the Final Report of the 2004 World Conference on *Disasters,* the Final Report of the 2004 World Conference on *Disasters,* the Final Report of the 2004 World Conference on *Disasters,* the Final Report of the 2004 World Conference on *Disasters,* the Final Report of the 2004 World Conference on *Disasters,* the Final Report of the 2004 World Conference on *Disasters,* the Final Report of the 2004 World Conference on *Disasters,* the Final Report of the 2004 World Conference on *Disasters,* the Final Report of the 2004 World Conference on *Disaster, Prevention, Preparedness and Mitigation.*

Two initial things are important to note about both the Hyogo Framework and the Yokohama Strategy; neither purport to be binding international law; they are both action plans with a coordinating and prioritizing function, but with out binding legal force. Moreover, both the Hyogo Framework and the Yokohama Strategy, and indeed most discussions of international disaster law, focus on preventing disasters or mitigating their impacts by reducing the vulnerability of communities, increasing their resilience to recover from disasters, and preparing communities for responding to disasters. Significant less attention is given to issues

¹⁾ A/Conf. 206/6

of managing disasters after they have occurred.

The lack of a comprehensive international legal regime for disaster response cannot be explained based on the suggestion that there are no legal questions. Among the questions for which we may seek answers in international law are:

(1) whether a State or the international community of States has a responsibility to unconditionally provide humanitarian assistance and whether disaster-affected States have a responsibility to accept needed disaster relief; (2) whether human rights laws aimed at protection of women, minorities or children could be used to prevent discrimination in a nations' response to affected states; (3) whether all States have a responsibility to warn neighbors of impending disasters; and (4) whether and under what circumstances there is responsibility for transboundary harm resulting from natural disasters damages when relief efforts either for causing or exacerbating impacts from natural disasters.

In this time, I can only do a quick survey of some of these issues.

II. The Responsibility to Protect under International Humanitarian Law

In light of Cyclone Nargis, some analysts have argued that Myanmar's rejection of international aid and its slow response to provide aid after the Cyclone could give rise to certain international responsibilities to protect. The argument is that humanitarian law could be extend to impose on states a responsibility to protect their own citizens from avoidable catastrophes, including natural disasters that, for example, caused massive, avoidable relocations of populations.²⁾ If this were accepted, then the responsibility to protect would trigger a responsibility on the

International Commission on Intervention and State Sovereignty; see also Natural Disasters and the Responsibility to Protect: From Chaos to Clarity Brooklyn Journal of International Law 32 Brook. J. Int'l L. 663 2006–2007.

affected state (in this case Myanmar) to take all appropriate actions in response to the disaster. In addition, there might be an argument that international law would authorize an intervention (on the back of Security Counsel resolutions, for example) by other states to protect the population from catastrophe. This would be a significant extension of international law but it is part of the current dialogue around the international law of disasters. For example, Principle 25(2) of the Guiding Principles on Internal Displacement states that an offer of international humanitarian assistance to internally displaced people should not be regarded as a n unfriendly act or an intereference in a State's internal affairs and shall be considered in good faith."³

III. Human Rights Restrictions on Discriminatory Disaster Response

In recent disasters, it has become clear that impacts and damages may occur disproportionately on the poor, vulnerable groups, women and other politically and economically marginalized groups. Those groups marginalized or discriminated against generally are likely to be discriminated against further in disaster preparedness, response, etc. Thus, some argue that Myanmar's slow response to the Cyclone Nargis was motivated at least in part because it was hitting a population largely comprised of Karen and other minorities. The Burmese officials in charge may have been motivated by racism that colors much of the relationship with the ethnic minorities inside Myanmar. Similar arguments followed Hurricane Katrina, which disproportionately hit African American communities.

These may raise issues under several of the human rights Conventions. The

³⁾ Guiding Principles on Internal Displacement, Principle 25

Convention on the Elimination of all Forms of Racial Discrimination (CERD),⁴⁾ for example, commits Parties to condemn racial discrimination and to undertake... a policy of eliminating racial discrimination in all its forms...⁷⁵⁾ It further guarantees everyone to equality before the law, notably in the enjoyment of all rights, including "the right to security of person and protection by the State against violence or bodily harm, whether inflicted by government officials or by an individual group or institution".⁶⁾ Although this may not apply directly to natural disasters, it may prohibit discriminatory activities by the government that withholds aid or otherwise exacerbates damages on to an ethnic minority.

Similarly, in the *Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW)*, Parties agree to condemn discrimination against women in all its forms and agree to pursure a policy of eliminating discrimination against women. This extends to ensuring women access to adequate living conditions, which could be raised in the context of disaster relief.

In general, those displaced from disasters will join the ranks of so-called "internally displaced people" and such people are not covered by international law to the extent that international refugees may be. The Guiding Principles on Internal Displacement clearly cover people who have been forced to leave their homes as a result of "natural or home-made disasters".⁷) Though themselves non-binding, these principles reflect broader human rights as they apply to internally displaced people, ensuring among other things equal treatment, rights to property or the right to be protected against arbitrary displacement.

^{4) 66} UNTS 195 (1965).

⁵⁾ Art. 2.

⁶⁾ Art. 5(b).

⁷⁾ U. N. Doc. E/CN. 4/1998/53/Add. 2, at para. 1 (1998).

IV. Obligations of Notification, Consultation and Consent in Disaster Response

The principle of prior notification obliges States planning an activity to transmit to potentially affected States all necessary information sufficiently in advance so that the latter can prevent damage to its territory. In the environmental context, the *Rio Declaration*, for example, requires States to "provide prior and timely notification and relevant in formation to potentially affected States on activities that may have a significant adverse transboundary environmental effect."

This requirement of prior notification is often closely connected to the obligation to consult in good faith. The principle of consultation requires States to allow potentially affected States an opportunity to review and discuss a planned activity that may have potentially damaging effects. The acting State is not necessarily obliged to conform to the interests of affected States, but should take them into account. The principle has been reiterated in various other declarations and conventions, frequently including a requirement that the consultation be "in good faith and over a reasonable period of time." Although conceptually at least the duty to notify could exist in situations where no duty to consult exists, in practice the two requirements are typically linked together.⁸⁾

Under Principle 5 of the International Law Commission's most recent Draft Principles on Liability for Damages Arising from Hazardous Activities, States are obligated to "promptly notify all States affected or likely to be affected of the incident and the possible effects of the transboundary damage."⁹⁾ The state of

⁸⁾ For more on the principles of prior notification and good faith consultation, see, e.g., International Law Commission's draft Principles on the Prevention of Transboundary Harm from Hazardous Activities (2001); OECD Council Recommendation on Principles Concerning Transfrontier Pollution, reprinted in 14I.L.M. 242(1975); Montreal Rules of International Law Applicable to Transfrontier Pollution, Art. 8(International Law Association, 1982).

⁹⁾ U.N.G.A., International Law Commission, 58th Session, A/CN. 4/L. 686 (26 May 2006).

origin of the damage should also ensure that appropriate response actions are taken and should seek consultation with respect to steps for mitigation, should take all feasible measures to mitigate, and should seek help from other international organizations.

The difficulty in the context of natural disasters, of course, is that they may not easily be attributed to specific, planned activities. Only in the context of disaster prevention or preparedness would countries potentially be in a position to have identified potential transboundary risks that should be subject to notification and consultation. The emphasis placed on evaluating the vulnerability of various countries could lead to more proactive identification of potential risks, including transboundary risks, that in turn could lead to responsibilities for notification and consultation. Once you know of a risk, the failure to notify of a risk may itself be a violation of international law.

In a potentially, extreme example European survivors and relatives of the victims of the Indian Ocean tsunami brought a class action suit against the Pacific Tsunami Warning Center, the US National Oceanic and Atmospheric Administration, the Accor Group, and the Kingdom of Thailand.¹⁰) They alleged that a failure of those operating the warning system for tsunamis failed to adequately communicate the risk to Thailand, which in turn meant Thailand failed to meet its obligations to order the evacuation of beach areas. Although ultimately not successful in the United States, the suit may predict the future in transboundary litigation on these issues.

Prior Informed Consent when Operating in Another State. Note that the obligation of notification and consultation does not typically require States to receive the consent of the affected State, at least when the activity does not take place in the affected State. Thus in a typical situation involving transboundary environmental harms, a country (State A) planning to build in its own territory a

¹⁰⁾ Tsunami Victims Group v. Accor N. Am. Inc. No. 05-CIV-2559.

factory causing pollution or some other harm would be under an obligation to notify an affected State (State B) and to enter into good faith negotiations with State B, but there would be no requirement to gain State B's consent. If, on the other hand, State A actually sought to act in the territory of State B, the obligation to gain consent replaces the simpler requirements of notification and consultation. This has potential implications for States planning to lend assistance to another State affected by a natural disaster. Thus, for example, a party to the *International Atomic Energy Agency Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency* must gain the consent of the neighboring party before lending emergency assistance after a nuclear accident.¹¹ This requirement is simply a manifestation of state sovereignty over its territory, but if there is no exception recognized (for example for the responsibility to protect as outlined above), then assisting states must receive consent from the affected state.

V. State Responsibility for Transboundary Environmental Harm

A central principle in international environmental law is the obligation of States not to cause environmental harm. This principle has been elaborated in arbitral decisions, in Article 21 of the *Stockholm Declaration* and Article 2 of the *Rio Declaration*, and affirmed in two ICJ opinions. The principle is widely considered apart of customary international law.

¹¹⁾ Other activities requiring prior informed consent include transporting hazardous wastes through a State or disposing such wastes in another State, *Basel Convention*, Art. 6; exporting domestically banned chemical substances, *Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade;* prospecting for genetic resources, *Convention on Biological Diversity*, Art. 15(5); and intentionally introducing alien species into another country, *Guiding Principles for the Prevention, Introduction and Mitigation of Impacts of Alien Species that Threaten Ecosystems, Habitatsor Species*, Principle 10.

The best articulation of the principle is from Principle 21 of the 1972 Stockholm Declaration:

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 policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.¹²

The obligation is not absolute. There is both a significance threshold—the environmental harm must have more than a de minimis impact on the neighboring state—and a due diligence standard. The due diligence standard requires an inquiry into the regulations and controls a State has in place to manage the risk of transboundary environmental harm under the circumstances. As the International Law Commission has stated it:

The standard of due diligence against which the conduct of State of origin should be examined is that which is generally considered to be appropriate and proportional to the degree of risk of transboundary harm in the particular instance. For example, activities which may be considered ultra-hazardous require a much higher standard of care in designing policies and a much higher degree of vigour on the part of the State to enforce them. Issues such as the size of the operation; its location, special climate conditions, materials used in the activity, and whether the conditions drawn from application of these factors in a specific case are reasonable, are among the factors to be considered in determining the due diligence requirement in each instance.¹³⁾

¹²⁾ See also Rio Declaration, Principle 2; Lac Lanoux Arbitration, (Spain v. Fr.) XII R. I. A. A. 281 (1957); UNEP Principles for Shared Natural Resources, Principle 3; United Nations Convention on the Law of the Sea, Part XII; IUCN Draft Covenant, Principle 4; IUCN Draft Covenant on Environment and Development, Article 11.

¹³⁾ I. L. C. Draft Articles on the Prevention of Transboundary Harm from Hazardous Activities, <u>supra</u>, at 399 para (3); see also 2010 Pulp Mills Case, at para. 197; UN Convention on the Law of the Sea, Art. 194; Birnie, Boyle & Redgwell, International Environmental Law, at 147–50.

Thus, the due diligence inquiry is a fact-specific inquiry dependent on each individual case. It is one that requires examining the potential risks from the proposed activity with the steps taken to managing the risk. In this respect, the standard of due diligence is not wholly unlike the familiar negligence standard that is frequently applied in domestic courts.

In the context of harms from natural disasters, this suggests the inquiry will be into the adequacy of steps taken to prevent or prepare for the disaster before it occurs, given the foreseeable risks to neighboring countries, and the steps taken to respond to the disaster after it occurs.

Because the obligation not to harm the environment of other States reflects customary law, States will be held responsible for transgressions of the principle. The International Law Commission released their¹⁴) "Every internationally wrongful act of a State entails the international responsibility of that State." And according to Article 2, an internationally wrongful act is any action or omission "attributable to the State under international law" and constituting a "breach of an international obligation of the State." Under the ILC Draft Articles, States responsible for an internationally wrongful act are under an obligation to make restitution (i.e. to re-establish the situation which existed before the wrongful act was committed), to compensate for any damage caused, and to give satisfaction (for example acknowledge the breach, express regret, or formally apologize).¹⁵

Defenses to State Responsibility. The problem with imposing responsibility on a state for harm caused by a natural disaster is that by definition the damages were not caused by man-made activities. This suggests that states will have access to the defenses of *force majeure*, distress or possibly necessity, depending on the situation. Under Article 23 of the ILC rules, for example, "The wrongfulness of an

¹⁴⁾ Draft Articles on the Responsibility of States for Internationally Wrongful Acts in December, 2001, Report of the International Law Commission on the Work of its Fifty-third Session, UN GAOR, 56th Sess., Supp. No. 10, at 43, UN Doc. A/56/10 (2001).

¹⁵⁾ See Draft Articles 34B37.

act of a State not in conformity with an international obligation of that State is precluded if the act is due to *force majeure*, that is the occurrence of an irresistible force or of an unforeseen event, beyond the control of the State, making it materially impossible in the circumstances to perform the obligation."

The *defense of force majeure* is clearly designed to address harm from natural disasters that frequently qualify as an "irresistibleforce" or an "unforeseen event" beyond the control of the State. Although in many cases the defense may arise, it may not be available to the extent that the transboundary harm was exacerbated due to an identifiable failure by the State to take certain actions (for example, in the design, location or operation of a nuclear facility or due to a failure to warn of an impending disaster). The defense of force majeure may not be available when "(a) the situation... is due, either alone or in combination with other factors, to the conduct of the State invoking it; or (b) the State has assumed the risk of that situation occurring."¹⁶

The same general point may be made regarding the **defense of necessity.** Necessity may only be invoked by a State as a ground for precluding the wrongfulness of an act not in conformity with an international obligation of that State if the act: "(a) is the only way for the State to safeguard an essential interest against a grave and imminent peril; and (b) [d]oes not seriously impair an essential interest of the State or States towards which the obligation exists, or of the international community as a whole." In any case, necessity may not be invoked if "[t]he State has contributed to the situation of necessity."¹⁷) Arguably, if a State's action has increased the neighboring State's vulnerability to the natural disaster (for example through the siting or location of a nuclear plant) or has increased the risk due to how it responded (for example, through inadequate warnings).

¹⁶⁾ ILC, Article 23.

¹⁷⁾ ILC, Article 25.

State Liability

The International Law Commission and other observers separate "State responsibility" from "State liability". In their view State responsibility is the obligation to make restitution for damage caused by a violation of international law; State liability is the obligation to compensate for harm caused where there is no violation of law. After many years of trying to develop the law of liability, the ILC in 2006 had a "second reading" of draft principles relating to liability arising from transboundary harm arising out of hazardous activities.¹⁸)

Under Principle 4, each "State should take all necessary measures to ensure that prompt and adequate compensation is available for victims of transboundary damage caused by hazardous activities located within its territory or otherwise under its jurisdiction or control." These measures should include the imposition of strict liability on the operator and should include requirements to maintain insurance or similar means of financial security. Victims of transboundary damage should also be given equal access to remedies in the State of origin as would victims within the country.

The principles of State Liability are less well established and not as widely accepted as those for state responsibility. This reflects the general lack of international consensus regarding the details for when and how liability should be assessed for international environmental damage. Both the *Stockholm Declaration*, Principle 22, and *Rio Declaration*, Principle 13, urge the international community to "develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control." The ILC's principles generally comport with the provisions of several liability conventions and protocols negotiated with respect to specific environmental activities, for example liability arising from shipping hazardous

¹⁸⁾ U.N.G.A., International Law Commission, 58th Session, A/CN. 4/L. 686 (26 May 2006).

waste, from oil spills, from nuclear damage or from the introduction of genetically modified organisms. Nonetheless, many of these conventions have limited scope and many of them are not yet in force. Although the IAEA does have a decision relating to liability for damage resulting from the response to nuclear accidents, No convention yet addresses liability resulting from responses to natural disasters.

VI. A Brief Comment on Liability for Disasters in the United States

Let me just close with a quick word about liability in the United States for environmental damages from natural disasters. US law in this context is primarily state law, with federal law providing a patchwork of rules covering specific issues. For example, some federal law aimed at ensuring adequate insurance or financial security is available for particularly risky activities (such as nuclear power or hazardous waste management). The Federal law also allows for the declaration of an emergency after a natural disaster, which largely paves the way for use of federal personnel, money and other resources (through for example the Federal Emergency Management Agency (FEMA)) in responding to the disaster.

Liability issues are almost entirely left to the state unless damages have occurred to oceans or coastal areas or involved nuclear power or some other heavily regulated activity. Where federal law prevails, the compromise is that strict liability may be imposed on the responsible operator but there is also a cap on that liability. At the state level, liability is imposed through the common law tort system, which in most cases will require a finding of negligence in, for example, either the preparation or response to the disaster. Completely unexpected or unanticipated natural disasters are unlikely to provide the basis for liability. Moreover, even where common law liability is found under state

law, the damages are typically limited to economic losses. The plaintiff must show a proprietary or economic interest in the resource that was damaged, which means most environmental or natural resource damages may fall outside the scope of recovery.

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