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Beyond Adjudication: Resolving International Resource Disputes in an Era of Climate Change

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In a time of war the law falls silent.

-Cicero

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I. INTRODUCTION

Climate change is one of the greatest emerging threats to global peace and security.¹ Among other impacts, climate change will exacerbate the scarcity of water, food, and other natural resources essential to human survival. One concern is that as these resources become scarcer, the frequency and severity of international disputes will increase. Thus, developing effective means for resolving international resource disputes is of critical global importance.

Historically, the international legal system has played a central role in providing international dispute resolution (IDR).² After

1. See U.N. Secretary-General, *Climate Change and Its Possible Security Implications*, U.N. Doc. A/64/350 at 1 (Sept. 11, 2009), available at <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N09/509/46/PDF/N0950946.pdf?OpenElement> (discussing emerging climate change threats to global peace and security and noting that “there may be implications for international cooperation from climate change’s impact on shared or undemarcated international resources”); Kofi Annan, *As Climate Changes, Can We?*, WASH. POST, Nov. 8, 2006, at A27; Richard Ingham, *Climate Change Is As Serious As WMD*, AFP, Nov. 15, 2006 (quoting Kofi Annan saying “[c]limate change is also a threat to peace and security”).

2. For the purposes of this Article, International Dispute Resolution (IDR) refers to the

World War II (WWII), nations became obligated under the United Nations (UN) Charter to pursue pacific dispute resolution as an option of first recourse.³ Of the many methods provided for in the Charter, adjudication has become the predominant approach for dispute resolution under the international legal system. In recent years, the use of adjudication has increased and international courts and tribunals have proliferated.⁴ The normalization of compulsory jurisdiction and the use of binding decision making further supports this view.⁵

This Article challenges this paradigm and argues that the emphasis on adjudication as a mechanism for resolving the types of international disputes prompted by climate change is misplaced. The examination of the limits of adjudication is not new to international legal scholarship. For example, Bilder discusses why,

methods of dispute resolution (judicial settlement, arbitration, conciliation, facilitation, negotiation, and mediation) utilized for assessing, preventing, managing, or resolving disputes in the international context. For a comprehensive overview and definition of individual methods, see JOHN COLLIER & VAUGHAN LOWE, *THE SETTLEMENTS OF DISPUTES IN INTERNATIONAL LAW* 2-3 (2000).

3. See U.N. Charter art. 33, ¶ 1 (“The parties to any dispute, the continuance of which is likely to endanger the maintenance of international peace and security, shall, first of all, seek a solution by negotiation, enquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements, or other peaceful means of their own choice.”).

4. See Cesare P.R. Romano, *The Shift from the Consensual to the Compulsory Paradigm in International Adjudication: Elements for a Theory of Consent*, 39 N.Y.U. J. INT’L L. & POL. 791, 792-95 (2007) (discussing the shift toward compelling disputants to consent to the jurisdiction of an international adjudicative body); Cesare P.R. Romano, *The Proliferation of International Judicial Bodies: The Piece of the Puzzle*, 31 N.Y.U. J. INT’L L. & POL. 709 (2000); Andrea K. Schneider, *Bargaining in the Shadow of (International) Law: What the Normalization of Adjudication in International Governance Regimes Means for Dispute Resolution*, 41 N.Y.U. J. INT’L L. & POL. 789, 793 (2009); Andrea Schneider, *Not Quite a World Without Trials: Why International Dispute Resolution Is Increasingly Judicialized*, 2006 J. DISP. RESOL. 119 (2006) (discussing the increase in the use of trials to resolve international legal disputes).

5. See, e.g., Susan D. Franck, *Integrating Investment Treaty Conflict and Dispute Systems Design*, 92 MINN. L. REV. 161, 201 (2007) (“The prevalence of arbitration provisions and the apparent structural inclination towards arbitration indicate a presumption that arbitration is the ‘best’ mechanism for resolving treaty disputes.”) (footnote omitted); Christopher Shen, *International Arbitration and Enforcement in China: Historical Perspectives and Current Trends*, 14 CURRENTS: INT’L TRADE L.J. 69, 70 (2005) (characterizing arbitration as the “preferred method of international dispute resolution”); see also ABRAM CHAYES & ANTONIA HANDLER CHAYES, *THE NEW SOVEREIGNTY: COMPLIANCE WITH INTERNATIONAL REGULATORY AGREEMENTS* 202-07 (1995); Laurence Helfer & Anne-Marie Slaughter, *Toward a Theory of Effective Supranational Adjudication*, 107 YALE L.J., 273, 387 (1997); Eric A. Posner & John Yoo, *A Theory of International Adjudication* (U. Chicago L. & Econ., Olin Working Paper No. 206, 2004), available at [http://papers.ssrn.com/sol3/pape rs.cfm?abstract_id=507003](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=507003).

due to the parties' reluctance to submit to the authority of a court, the win-lose nature of the process, or the failure to address underlying causes of the dispute, adjudication is limited in its usefulness as an IDR method.⁶ Anand, Merrills, and others provide additional reasons why states are reluctant to engage in an adjudicatory process for resolving international disputes, particularly those in which the stakes are high.⁷ Others have described the limitations, as well as the benefits, of using adjudication to resolve international environmental disputes, which are addressed in Part III.B.⁸

This Article extends the critique of adjudication to the context of international resource disputes.⁹ The central claim is that adjudication's limits render it ineffective as a tool for resolving international resource disputes, warranting serious consideration of alternative approaches. Adjudication is limited by process deficiencies, its reliance on underdeveloped sources of international law, and institutional restrictions. Analysis of the use of adjudication by international courts and tribunals reveals four categories of limitation: a) cases where the parties refused to submit to adjudication, b) cases where the judicial decision did not address the merits of the dispute, c) cases of noncompliance, and d) cases with a recurrence of the dispute or conflict. In response, I argue for progressing beyond the adjudication paradigm in order to advance global capacity to resolve disputes and prevent conflict in an era of climate change. I suggest that effective dispute resolution can be enhanced through the use of integrated IDR methods.¹⁰ Employing adjudication with mediation or facilitation allows the strengths of

6. See Richard Bilder, *Some Limitations of Adjudication As an International Dispute Settlement Technique*, 23 VA. J. INT'L L. 1, 4 (1982).

7. See generally R.P. ANAND, *STUDIES IN INTERNATIONAL ADJUDICATION* (1969); J.G. Merrills, *The Role and Limits of International Adjudication*, in *INTERNATIONAL LAW AND THE INTERNATIONAL SYSTEM* 169-81 (William E. Butler ed., 1987); G. Shinkaretskaya, *The Present and Future Role of International Adjudication as a Means of Peacefully Settling Disputes*, 29 INDIAN J. INT'L L. 87 (1989).

8. See, e.g., CESARE P.R. ROMANO, *THE PEACEFUL SETTLEMENT OF INTERNATIONAL ENVIRONMENTAL DISPUTES* 91-129 (2000) (discussing the use of adjudication and judicial settlement for international environmental disputes).

9. While these implications may apply to the adjudication of other types of international disputes, demonstrating particular limitations in other areas is outside the scope of this analysis.

10. See Anna Spain, *Integration Matters: Rethinking the Architecture of International Dispute Resolution*, 32 U. PA. J. INT'L L. 1 (2010).

rights-based processes and interest-based processes to complement one another. Integrating different IDR methods in this way has proven beneficial in international resource cases, as three case studies illustrate, leading to the successful resolution of disputes as well as to the deescalation of armed conflict.

However, expanding IDR capacity beyond adjudication under the international legal system raises broader conceptual issues about the emerging purpose and scope of international law. Solving global problems may require nations to comply with international law, even when it is against their own interests, to protect broader collective interests. This challenges fundamental notions about the sovereignty, authority, and power of states. Resolving international resource disputes, as this Article identifies, requires recognizing the importance of including nonstate actors in the process and having a reliable and effective system capable of addressing all parties' concerns with legitimacy, fairness and speed. Maintaining a system that limits the participation of nonstate stakeholders in international decision-making hinders effective dispute resolution.

As background for establishing the context and scope of this Article, the following definitional and conceptual parameters apply. First, the Article focuses on international disputes and their resolution. However, it also recognizes the interconnected nature between disputes and the conflicts those disputes are often part of. In part, this is because resource scarcity and environmental concerns are root causes of both disputes (over territory, boundaries, etc.) and conflict. Definitions distinguishing the terms "dispute," "conflict," "international," "armed," and so forth are provided in Part II. Second, this Article narrows its examination of adjudication to international resource disputes. I recognize that the limitations of adjudication do extend to other types of international and environmental disputes, but demonstrating such is beyond the scope of this analysis. Third, the conceptual framework for this Article examines the obstacles of using adjudication in the context of international courts and tribunals. Though adjudicatory mechanisms at the national and sub-national levels, such as litigation in U.S. courts under the Alien Tort Statute, provide additional mechanisms for resolving resource disputes, this Article does not analyze these mechanisms.¹¹

11. See, e.g., Alien Tort Statute (ATS), 28 U.S.C. § 1350 (1948) (allowing aliens to bring

This Article proceeds in five Parts. The first Part analyzes the relationship between climate change, resource scarcity, and conflict. The second Part evaluates adjudication as a dispute resolution mechanism for addressing international resource disputes and identifies source and process limitations. The third Part explores four categories of adjudication limitation: nonparticipation, failure to address merits, noncompliance, and recurrence. The fourth Part explains how adjudication could improve through integration with interest-based IDR methods and explores three case studies that illustrate this claim. And the fifth Part considers how moving away from an adjudication-centric model of dispute resolution will challenge the traditional foundations of international law. The Article concludes by emphasizing the importance of proactive preparation so that the international legal system may serve as an effective tool for peace in an era of climate change.

II. CLIMATE IN CRISIS: WILL THERE BE WAR?

Climate change and adjudication are connected in the following way: While we cannot predict exactly how climate change will impact the future world order, we do know that it will. One concern is that climate change will present conditions that will intensify the onset of conflict. For international law to assist in the promotion of global peace and security in this new era, it must be prepared to provide effective tools for tempering human inclinations to resort to force in times of crisis.¹² This Article evaluates the international legal system's ability to do so through adjudication. This section describes the link between climate change, resource scarcity, and conflict to explain how climate change will have an impact on the future of international dispute resolution.

torts that violate "the law of nations" or a "treaty of the United States" before U.S. courts); see also *Sosa v. Alvarez-Machain*, 542 U.S. 692 (2004) (in which the Supreme Court holds that ATS suits arising from breaches in customary international law are permissible); Richard Herz, *Litigating Environmental Abuses Under the Alien Tort Claims Act: A Practical Assessment*, 40 VA. J. INT'L L. 545 (2000) (explaining how ATS suits may arise from the breach of a treaty obligation); Kathleen Jaeger, *Environmental Claims Under the Alien Tort Statute*, 28 BERKELEY J. INT'L L. 519 (2010) (noting that although pre-*Sosa* U.S. courts have addressed several international environmental cases including *Flores v. South Peru Copper Corp.*, 343 F.3d 140 (2d Cir. 2003), *Aguidan v. Texaco, Inc.*, 303 F.3d 470 (2d Cir. 2002), *Beanal v. Freeport-McMoran, Inc.*, 197 F.3d 161 (5th Cir. 1999), *Jota v. Texaco, Inc.*, 157 F.3d 153 (2d Cir. 1998), *Amlon Metals, Inc. v. FMC Corp.*, 775 F. Supp. 668, (S.D.N.Y. 1991), they have not been successful).

12. PEACE AND CONFLICT 2008 21 (J. Joseph Hewitt et al. eds., 2007).

A. Climate Change, Resource Scarcity, and Conflict

Climate change will likely cause significant changes in the supply and distribution of the world's natural resources. Coupled with increased global demand from a growing human population, this presents conditions for conflict for obvious reasons—natural resources are essential to human survival¹³—making climate change a serious threat to global peace and security.¹⁴

In 2007, the Intergovernmental Panel on Climate Change (IPCC) concluded that the planet is warming. The Earth is warmer than it was in 1860 by approximately .75°C and the years between 1995 and 2006 were eleven of the twelve warmest on record.¹⁵ Scientists concur that most of the warming over the last 50 years is due to human activity,¹⁶ primarily the consumption of fossil fuels and deforestation, which are the core drivers of increased greenhouse gases in the atmosphere.¹⁷ Furthermore, impacts are occurring more quickly than originally predicted. Warming of the oceans is causing ice sheets to melt rapidly and existing seawater to expand.¹⁸ Sea-level rise could reach thirteen to sixteen feet, which would inundate small island States, coastal cities, and low-lying countries like Bangladesh.¹⁹

As the climate warms and changes, it will alter the location and availability of the world's freshwater resources. Presently, over 1.4

13. See, e.g., Steve Lonergan, *Water Resource and Conflict: Examples from the Middle East*, in *CONFLICT AND THE ENVIRONMENT* 375 (Nils Petter Gleditsch et al. eds., 1997) (discussing the essential nature of water to human survival).

14. See U.N. Secretary-General, *supra* note 1 (discussing emerging climate change threats to global peace and security).

15. Intergovernmental Panel on Climate Change (IPCC), *Summary for Policymakers*, in *CLIMATE CHANGE 2007: THE PHYSICAL SCIENCE BASIS. CONTRIBUTION OF WORKING GROUP I TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE* 10 (Solomon, et al. eds., 2007), available at www.ipcc.ch/publications_and_data/ar4/wg1/en/spm.html.

16. *Id.* at 5 (reporting measurements for global surface temperature since 1850).

17. *Id.* at 2 (reporting that CO₂ emissions are primarily caused by human consumption of fossil fuels; emissions of methane and nitrous oxide are primarily caused by agricultural activity and deforestation). On average, CO₂ emissions are increasing at 7.2 GTC per year in 2000-2005, up from 6.4 GTC per year in the 1990s. *Id.*

18. *Id.* at 5 (noting that global average sea level rise is speeding up. It rose at an average rate of 1.8 mm per year from 1961-2003 and 3.1 mm from 1993-2003); *id.* at 15 (finding that late-summer arctic ice sheets are expected to disappear by the end of this century, that arctic sea ice has been decreasing by 2.7% per decade, and the arctic ice melt has experienced a 40% loss since 1980).

19. *Id.* at 9.

billion people lack access to safe water and 76% of the world's population lives in water-stressed areas.²⁰ By mid-century, the IPCC predicts that overall fresh water supplies will decline as storage in glaciers and snow cover disappears.²¹ Water scarcity in Africa is of particular concern as, according to some estimates, most of its regions will face water shortages by as early as 2030.²² Environmental degradation, pollution and poor management practices compound these effects.²³

The impact climate change will have on the global food supply is equally troubling. Crop yields and food production will likely decrease while extreme weather events and disease increase.²⁴ Impacts will be global, cumulative, and irreversible in nature.²⁵ Some regions will face more difficulty than others. Sub-Saharan Africa, for example, can expect significant reductions in agricultural output due to shorter growing seasons and drought. This will likely result in \$14 billion in annual costs to the agriculture sector, with overall global annual cost estimated at \$171 billion.²⁶

Given this future scenario, the international community has begun to explore security risks, placing climate change on the national security agenda in the U.S. and in other countries.²⁷ One

20. JEROME DELLI PRISCOLI & AARON WOLF, *MANAGING AND TRANSFORMING WATER CONFLICTS* xxii (2009).

21. IPCC, *supra* note 15, at 11.

22. U.N. FRAMEWORK CONVENTION ON CLIMATE CHANGE REPORT, CLIMATE CHANGE: IMPACTS, VULNERABILITIES AND ADAPTATION IN DEVELOPING COUNTRIES 18-19 (2007).

23. Nils Petter Gleditsch, *Armed Conflict and the Environment*, in ENVIRONMENTAL CONFLICT 257-58 (Paul F. Diehl and Nils Petter Gleditsch, eds.) (2001).

24. IPCC, *supra* note 15, at 12.

25. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, PRESENTATION AT PRE-COP IN WARSAW: 20TH ANNIVERSARY OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, (2008), available at <http://www.ipcc.ch/pdf/presentations/pre-cop-warsaw-2-10-2008/pres-warsaw-climate%20-botagaj-1.pdf>.

26. *Climate Change Cost Estimates Flawed, Study Says*, IRIN HUMANITARIAN NEWS AND ANALYSIS, Sept. 1, 2009, available at <http://www.irinnews.org/Report.aspx?ReportId=85946> (reporting that the UNFCCC committee of scientists estimating impacts from 2002-08, led by Martin Perry, estimated that annual sector costs as a result of warming temperatures will reach \$14 billion for agriculture; \$11 billion for water; \$5 billion for human health; \$11 billion for coastal zones; and \$130 billion for infrastructure, reaching an annual total of \$171 billion in costs; and noting that Perry argues that these estimates err on the low side because of the short time-frame in which the study was produced).

27. S.C. Res. 1625, U.N. Doc. S/RES/1625 (Sept. 14, 2005) (addressing threats to international peace and security at the Security Council Summit); see, e.g., *A Bad Climate for Development*, ECONOMIST, Sept. 17, 2009; Bryan Bender, *Bill Ties Climate to National Security*, B. GLOBE, Apr. 9, 2007; Joshua Busby, *Who Cares About the Weather? Climate Change and U.S.*

concern is that resource scarcity, in addition to other impacts, will lead to war.²⁸ Historically, competition over natural resources has contributed to the onset of international conflict.²⁹ States resort to armed conflict over threats to their sovereignty, territory, and national security,³⁰ which sometimes involve underlying disputes about the use or ownership of natural resources.³¹ For example, a border dispute between two countries can escalate into armed conflict when nations send armed troops to border regions where local populations are struggling to exert control over a natural resource.³² In other instances internal demand for scarce resources drives expansion, increasing the potential for armed conflict as populations migrate across national borders.³³

International armed conflict and international environmental disputes over natural resources are often interconnected as both are born out of common underlying issues. Even so, each term enjoys a distinct definition. The generally accepted definition of conflict is violent or armed contact between two or more groups resulting in a certain threshold of death and casualties over a sustained period of time.³⁴ Traditionally, international conflict was defined as occurring

National Security, 17 SECURITY STUD. 468 (2008).

28. For extended definitions and discussion of natural resource scarcity, see THOMAS HOMER-DIXON, *ENVIRONMENT, SCARCITY AND VIOLENCE* 47-52 (1999); *see also* ENVIRONMENTAL CONFLICT 257-72, 320 (Paul Diehl & Nils Petter Gleditsch eds., 2001) (discussing nine common problems with research on scarcity and conflict).

29. Cesare P.R. Romano, *International Dispute Settlement*, in THE OXFORD HANDBOOK OF INTERNATIONAL ENVIRONMENTAL LAW 1037 (Dan Bodansky, Jutta Brunnee & Ellen Hey eds., 2007) (referring to American University's Inventory of Conflict and the Environment, which indicates at least 120 international disputes or conflicts prompted by environmental issues), available at <http://www1.american.edu/TED/ice/ice.htm>.

30. JACOB BERCOVITCH & JUDITH FRETTER, *REGIONAL GUIDE TO INTERNATIONAL CONFLICT AND MANAGEMENT FROM 1945-2003* 13 (2004).

31. *Id.*; *see* ENVIRONMENTAL CONFLICT, *supra* note 28, at 256; *see also* RONGXING GUO, *TERRITORIAL DISPUTES AND RESOURCES MANAGEMENT A GLOBAL HANDBOOK* xiii-12 (2007) (providing case studies documenting boundary and territory resource disputes around the world since WWII through a survey of nearly 200 "disputed areas"). Guo presents a short narrative of the causes and consequences of each dispute and the subsequent conflict resolution efforts (xiii-xiv); offers various definitions of boundary including natural features (mountain, river, lake, sea or other water body) (3-4); supports the idea that resource scarcity and territorial disputes are linked (9); and lists approaches "successfully applied to the peaceful resolution of territorial disputes as well as to the management of natural and environmental resources in disputed areas." (12).

32. *See, e.g.*, *Frontier Dispute (Mali v. Burk. Faso)*, Judgment, 1986 I.C.J. 554 (Dec. 22).

33. GUO, *supra* note 31, at 9 (suggesting that internal demands on resources cause expansion and increase likelihood of conflicts arising from "hostile lateral pressure").

34. MEREDITH REID SARKEES & FRANK WHELOM WAYMAN, *RESORT TO WAR* 46-60 (2010).

between two or more states (interstate), with the classic scenario being described as war.³⁵ However, this definition has been expanded to include other types of conflict that pose a threat to global peace and security. Today, international conflicts include armed conflict between groups within a state (intrastate) further defined as civil, regional-internal, and inter-communal,³⁶ and between groups that are not states or their objects (nonstate)³⁷ when there is a spillover effect, regional proliferation, the threat or use of nuclear, biological, or chemical weapons, or the finding of international war crimes.³⁸ Thus, the traditional understanding of international conflict as a war that occurs between nations has expanded to embrace the understanding that civil wars and regional nonstate wars can become international conflicts when they rise to the level of threatening international peace and security. International disputes are distinguished from conflict by their limited violence and are generally defined as “specific disagreement[s] concerning a matter of fact, law, or policy in which a claim or assertion of one party is met with refusal, counter-claim, or denial by another.”³⁹

Despite the severity of the potential threat that climate change presents for global peace and security, scholars are cautious about confirming a direct causal relationship between resource scarcity and the onset of international conflict.⁴⁰ On one side of the debate, scholars argue that scarcity of critical resources does drive people to conflict.⁴¹ Empirical studies show that incidents of conflict increase significantly when there is a large or rapid change to an ecosystem or political setting and when existing governance structures cannot effectively manage that change.⁴² Homer-Dixon argues that

35. *Id.* at 61-62.

36. *Id.* at 64.

37. *Id.* at 70.

38. BERCOVITCH & FRETTER, *supra* note 30, at 7-8, 13.

39. J.G. MERRILLS, INTERNATIONAL DISPUTE SETTLEMENT 1 (2005).

40. See Ragnhild Nordas & Nils Petter Gleditsch, *Climate Change and Conflict*, 26 POL. GEOG. 627, 627-38 (2007) (calling for better coupling of climate change and conflict models and increased specificity about the types of expected violence); Idean Salehyan, *From Climate Change to Conflict? No Consensus Yet*, 45 J. PEACE RES. 3, 315 (2008).

41. See HOMER-DIXON, *supra* note 28, at 166-68 (discussing why scarcity can contribute to violent conflict in the intra-state context and that these conditions are likely to increase in the future). See generally JAMES LEE, CLIMATE CHANGE AND ARMED CONFLICT (2009).

42. PRISCOLI & WOLF, *supra* note 20, at 19 (citing the Transboundary Freshwater Disputes Database study of 2006).

interstate wars over water are possible but unlikely and such conflicts are more likely to be intrastate than interstate.⁴³ Gleditsch argues that resource scarcity is a “traditional source of armed conflict”⁴⁴ and interstate wars “but less so than political or economic variables.”⁴⁵ The Inventory of Conflict and the Environment database provides additional evidence that there are linkages between the availability of natural resources and conflict between nations.⁴⁶

On the other hand, those that reject this view argue that because scarcity is not the only factor that will increase the risk of violent conflict, it cannot be evaluated in such an absolute manner.⁴⁷ Far from causing conflict, some even argue that certain types of resource scarcity increase international cooperation⁴⁸ or that resource abundance, rather than scarcity, is more likely to cause conflict.⁴⁹

Those representing the view from the global South reframe the debate and claim that industrialization, the global trade regime, over-consumption and developed countries’ interests in resources, not scarcity, are the acute environmental threat and subsequent causal factor driving conflict for developing countries.⁵⁰ They also stress that the poorest people of the world have the least adaptive

43. Thomas Homer-Dixon, *Environmental Scarcities and Violent Conflict: Evidence from Cases*, 19 INT’L SECURITY 1, 5-40 (1994). *But see* ENVIRONMENTAL CONFLICT 263-65 (Paul Diehl & Nils Petter Gleditsch eds., 2001) (arguing that resource scarcity can lead to cooperation).

44. Nils Petter Gleditsch, *Environmental Conflict and the Democratic Peace*, 33 CONFL. & ENV’T. 91 (1997).

45. Diehl & Gleditsch, *supra* note 28, at 256.

46. INVENTORY OF CONFLICT AND THE ENVIRONMENT, AMERICAN UNIVERSITY, *available at* <http://www1.american.edu/TED/ice/ice.htm> (last visited Feb. 8, 2011).

47. Diehl & Gleditsch, *supra* note 28, at 317; *see also* JON BARNETT & W. NEIL ADGER, *Climate Change, Human Security and Violent Conflict* 26 POL. GEOG. 639, 644 (2007).

48. PRISCOLI & WOLF, *supra* note 20, at 19, 21-23 (arguing that since parties generally recognize that water is too important to fight about they are more likely to respond with cooperative behavior than with conflict); *see also* BRIDGES OVER WATER: UNDERSTANDING TRANSBOUNDARY WATER CONFLICT, NEGOTIATION AND COOPERATION (Ariel Dinar et al. eds., 2007) (concurring with this perspective).

49. Diehl & Gleditsch, *supra* note 28, at 257 (citing Indra de Soysa’s study finding empirical support that resource abundance in least developed nations is more likely to lead to civil war than resource scarcity); *see also* Simon Dalby, *Geopolitical Knowledge: Scale, Method, and the “Willie Sutton Syndrome,”* 12 GEOPOL. 183, 183-91 (2007); Salehyan, *supra* note 40, at 316 n.1 (2008).

50. Narottam Gaan, *Environment and Conflict: The South’s Perspective*, 28 STRAT. ANAL. 827, 832-33 (1995).

capacity,⁵¹ and this magnifies their vulnerability to scarcity and conflicts.⁵²

III. EVALUATING ADJUDICATION AS A MECHANISM FOR RESOLVING DISPUTES

If international disputes over natural resources are going to occur, how will the international legal system address them? The UN Charter obligates states to resolve their disputes peacefully and lists several dispute resolution methods that states may employ.⁵³ Of these, adjudication has been the primary method of dispute resolution provided for by the international legal system.⁵⁴ Adjudication is generally defined as the resolution of legal disputes on the basis of international law by the process of arbitration or judicial settlement.⁵⁵ This section evaluates the role that adjudication serves as a dispute resolution mechanism by reviewing its developmental history and scholarly criticisms, and examining issues arising from source and process limitations in a variety of international courts and tribunals.

51. IPCC, *supra* note 15, at 21 (defining adaptive capacity as the ability of a system to adjust to climate change (including climate variability and extremes) to moderate potential damages, to take advantage of opportunities, or to cope with the consequences). Vulnerability is the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity, and its adaptive capacity. *Id.* See also SIMON DALBY, ENVIRONMENTAL SECURITY 51 (2002) (discussing the results of Gunther Baechler's "ENCOP" project "finding that states with the lowest HDI's had the highest proneness to warfare").

52. See THIRD WORLD ATTITUDES TOWARD INTERNATIONAL LAW: AN INTRODUCTION (Frederick Snyder & Surakiart Sathirathai eds., 1987); GUO, *supra* note 31, at 9 (arguing that population growth and high per-capita resource consumption cause environmental degradation and scarcity, which, when coupled with structural unequal access to resources, increases the chance of violence); Gaan, *supra* note 50, at 832-33.

53. See U.N. Charter pmbl., ¶ 1 (noting peace and international security as a common goal of participating states); U.N. Charter art. 2, ¶ 3 ("All Members shall settle their international disputes by peaceful means . . ."); U.N. Charter art. 33, ¶ 1 ("The parties to any dispute, the continuance of which is likely to endanger the maintenance of international peace and security, shall first of all, seek a solution by negotiation, enquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements, or other peaceful means of their own choice.").

54. See generally Philippe Sands, *Introduction*, in RUTH MACKENZIE ET AL., THE MANUAL ON INTERNATIONAL COURTS AND TRIBUNALS at ix, xi-xiii (2d ed. 2010) (discussing the emergence of adjudication as the primary form of IDR, the rise of international adjudicatory bodies, the increasing roles of non-state actors in international disputes, and the corresponding increase in international litigation).

55. J.G. MERRILLS, INTERNATIONAL DISPUTE SETTLEMENT 91, 127 (2005) (discussing arbitration and judicial settlement, respectively); see also ROMANO, *supra* note 8, at 91.

A. *The Development of Adjudication*

The development of adjudication as a form of international dispute settlement began with arbitration.⁵⁶ Arbitration offered parties a process for settling disputes by referring them to ad-hoc bodies responsible for issuing legally binding decisions.⁵⁷ In 1899, twenty-eight states adopted the Convention for the Pacific Settlement of International Disputes to “ensure the pacific settlement of international differences”⁵⁸ and established the Permanent Court of Arbitration (PCA).⁵⁹ The PCA is an intergovernmental organization that serves as an arbitral institution empowered with the ability to conduct arbitration, conciliation, and fact-finding.⁶⁰ After WWII, the International Court of Justice (ICJ) (replacing the Permanent Court of Justice) was formed as the principal judicial organ of the United Nations to offer judicial settlement through a standing tribunal with permanent judges.⁶¹

Today, many nations use adjudication to address their international disputes over natural resources and other environmental issues.⁶² Adjudication is appealing because it offers certainty of process, legitimacy and a binding outcome that enjoys the promise of compliance under international law. Judges and arbitrators promote dispute resolution by developing a common understanding of facts and clarifying substantive rules of law.⁶³

56. See DANIEL TERRIS ET AL., *THE INTERNATIONAL JUDGE: AN INTRODUCTION TO THE MEN AND WOMEN WHO DECIDE THE WORLD'S CASES* 1-4 (2007) (providing a historical account of the development of international arbitration); see also Sands, *supra* note 54, at x-xi (describing four phases of the development of international adjudication).

57. MERRILLS, *supra* note 39, at 91.

58. 1899 Convention for the Pacific Settlement of International Disputes art. 1, 32 Stat. 1779 (1901), available at www.pca-cpa.org/upload/files/1899ENG.pdf; see Sands, *supra* note 54, at ix (noting that the Convention “marked a turning point in favor of international adjudication before standing bodies”).

59. See Sands, *supra* note 54, at ix (describing the formation of the PCA as the first standing body for international adjudication); TERRIS ET AL., *supra* note 56, at 2-3 (describing the creation and structure of the PCA).

60. *About Us*, PERMANENT COURT OF ARBITRATION, http://www.pca-cpa.org/show_page.asp?pag_id=1027 (last visited Feb. 8, 2011).

61. *The Court*, INTERNATIONAL COURT OF JUSTICE, <http://www.icj-cij.org/court/index.php?p1=1> (last visited Feb. 8, 2011); see also RUTH MACKENZIE ET AL., *THE MANUAL ON INTERNATIONAL COURTS AND TRIBUNALS* 4-5 (2d ed. 2010) (discussing the formation and organizational structure of the ICJ).

62. ROMANO, *supra* note 8, at 91-92; TIM STEPHENS, *INTERNATIONAL COURTS AND ENVIRONMENTAL PROTECTION* 21-62 (2009).

63. See ANDREW T. GUZMAN, *HOW INTERNATIONAL LAW WORKS: A RATIONAL CHOICE THEORY*

While States have historically not preferred adjudication as a mechanism for resolving environmental and other complex disputes,⁶⁴ the increased number of cases before the International Court of Justice, Permanent Court of Arbitration, the International Tribunal for the Law of the Sea (ITLOS,) and other venues, and the prevalence of dispute resolution measures in international environmental treaties suggests otherwise today.⁶⁵ This coincides with the general trend toward compulsory jurisdiction, the use of binding forms of decision-making, and the proliferation of international courts and tribunals in international law.⁶⁶ Thus, adjudication has become the central form of dispute resolution under the international legal system today.⁶⁷

at 51-53 (2008) (discussing the role that international courts play as an "information mechanism").

64. See Richard Bilder, *The Settlement of Disputes in the Field of the International Law of the Environment*, 144 RECUEIL DES COURS 139, 228 (1975); Stephen J. Toope, *Formality and Informality*, in THE OXFORD HANDBOOK OF INTERNATIONAL ENVIRONMENTAL LAW at 109 (arguing that "courts, and even other forms of third party adjudication, play a relatively minor role in international law generally and in environmental law in particular").

65. See STEPHENS, *supra* note 62, at 21 (noting that although adjudication was rarely used in early international environmental disputes, it has become routine in recent decades).

66. See CESARE P.R. ROMANO, THE PROJECT ON COURTS AND TRIBUNALS, THE INTERNATIONAL JUDICIARY IN CONTEXT: A SYNOPTIC CHART (2004), available at http://www.pict-pcti.org/publications/synoptic_chart/synop_c4.pdf (providing a graphic and textual overview of the expansion of international courts, tribunals, and other judicial bodies); Cesare P.R. Romano, *The Shift from the Consensual to the Compulsory Paradigm in International Adjudication: Elements for a Theory of Consent*, 39 N.Y.U. J. INT'L L. & POL. 791, 792-95 (2007) (discussing the shift toward compelling disputants to consent to the jurisdiction of an international adjudicative body); Sands, *supra* note 54, at xiii (noting the trend toward inclusion of binding dispute resolution methods in treaties, including the 1982 UN Convention on the Law of the Sea and the 1994 World Trade Organization Dispute Settlement Understanding).

67. See Susan D. Franck, *Integrating Investment Treaty Conflict and Dispute Systems Design*, 92 MINN. L. REV. 161, 201 (2007) ("The prevalence of arbitration provisions and the apparent structural inclination towards arbitration indicate a presumption that arbitration is the 'best' mechanism for resolving treaty disputes.") (footnote omitted); Andrea K. Schneider, *Bargaining in the Shadow of (International) Law: What the Normalization of Adjudication in International Governance Regimes Means for Dispute Resolution*, 41 N.Y.U. J. INT'L L. & POL. 789, 793 (2009) ("[D]isputes are more likely than ever to be resolved through a trial or adjudicatory method."); Christopher Shen, *International Arbitration and Enforcement in China: Historical Perspectives and Current Trends*, 14 CURRENTS: INT'L TRADE L.J. 69, 70 (2005) (characterizing arbitration as the "preferred method of international dispute resolution").

B. Literature Review

The idea that adjudication is inadequate and, more specifically, fails to resolve disputes,⁶⁸ is not new. Scholars have claimed that adjudication is ineffective at resolving international disputes on several grounds: because states are reluctant to submit to a third-party decision-making authority;⁶⁹ because the nature of the adjudication process is zero-sum; because judicial decisions often ignore underlying issues in the dispute; and because States “have little incentive to resort to international adjudication as a way of clarifying or developing general rules.”⁷⁰ Adjudicatory forums are generally limited in the kinds of cases that they can hear, which, to be justiciable, must be framed as a legal dispute even when there are other issues at stake.⁷¹ The ICJ, for example, has been reluctant to offer legal decisions that cross into political matters.⁷² Judicial proceedings are also retroactive, do not tend to proactively prevent harms from occurring and, instead, offer remedies that cannot compensate for the true value of the loss.⁷³

Scholars also consider why adjudication fails to adequately resolve international environmental disputes. For example, Bilder argues that adjudication is less effective than non-judicial, collaborative methods of IDR for resolving international environmental disputes because states are reluctant to hand their control over such cases to a court or tribunal.⁷⁴ Bilder also argues

68. JOHN COLLIER & VAUGHAN LOWE, *THE SETTLEMENT OF DISPUTES IN INTERNATIONAL LAW* 1-2 (1999) (noting that settlement implies that the parties to the dispute accept the adjudicatory authority's outcome that decides the dispute, often in favor of one side or another, based upon the application of the facts to the law; whereas resolution implies that the parties have not only settled the legal matter, they have also resolved the underlying issues giving rise to the dispute in the first place).

69. Richard Bilder, *International Dispute Settlement and the Role of International Adjudication*, 1 EMORY J. INT'L DISP. RESOL. 131, 151-61 (1987).

70. Bilder, *supra* note 6, at 5.

71. HERSCH LAUTERPACHT, *THE FUNCTION OF LAW IN THE INTERNATIONAL COMMUNITY* 158 (1933); ROMANO, *supra* note 8, at 91.

72. CESARE P.R. ROMANO, *THE SWORD AND THE SCALES* 72-79 (2009); DAVID SCHWEIGMAN, *THE AUTHORITY OF THE SECURITY COUNCIL UNDER CHAPTER VII OF THE UN CHARTER* 261 (2001) (“According to the ‘political question doctrine,’ the Court should and could not pronounce on certain aspects of a case because these questions relate to the political sphere.”).

73. *See* Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, 1996 I.C.J. 226, 266 (July 8) (finding that the threat alone constituted a remediable action; the harm did not have to have occurred).

74. Bilder, *supra* note 6, at 3-5, 9-10; *see also* ROMANO, *supra* note 8.

that adjudication is of limited use in resolving environmental disputes because the issues are technically complex and politically sensitive.⁷⁵ Romano argues that in such cases, issues are often fragmented into distinct legal matters and channeled into separate forums that isolate related interests and actors.⁷⁶ Fitzmaurice identifies the lack of standing for nonstate actors, particularly NGOs, as a prominent reason why the ICJ is an ineffective venue for the resolution of international environmental disputes.⁷⁷ International resource disputes commonly involve nonstate parties who are not able to fully participate in international adjudication processes.⁷⁸ Such disputes also raise collective public interests, which call for the participation of civil society in the resolution process.⁷⁹ There can also be norm conflict between the goals of a court and tribunal and the environmental goals of the disputants.⁸⁰

Further studies on the resolution of international water disputes support the claim that adjudication is an inadequate process for achieving resolution. Like Bilder and Romano, Graffey suggests that adjudication is of limited value in this context because States are reluctant to relinquish control over the outcome to a court or tribunal.⁸¹ Brunnee and Toope identify the tendency of the adjudicatory regime to falsely shape water problems into ones over territory and sovereignty.⁸² Bourne explains how adjudication can “petrify the status quo,” which is often an inadequate outcome for a resource that is dynamic in nature.⁸³ The lengthy and costly process

75. Bilder, *supra* note 6, at 180.

76. ROMANO, *supra* note 8, at 1045-54.

77. Malgosia Fitzmaurice, *The I.C.J. and Environmental Disputes*, in INTERNATIONAL LAW AND DISPUTE SETTLEMENT 51-52 (French, Saul, & White eds., 2010).

78. See, e.g., Peggy Kalas, *International Environmental Dispute Resolution and the Need for Access by Nonstate Entities*, 12 COLO. J. INT'L ENVTL. L. & POL'Y 191, 193 (2001) (discussing the lack of nonstate actor participation in international courts).

79. Neil Craik, *Recalcitrant Reality and Chosen Ideals: The Public Function of Dispute Settlement in International Environmental Law*, 10 GEO. INT'L ENVTL. L. REV. 551 (1998).

80. John Martin Gillroy, *Adjudication Norms, Dispute Settlement Regimes, and International Tribunals: The Status of “Environmental Sustainability” in International Jurisprudence*, 42 STAN. J. INT'L L. 1 (2006).

81. Colleen P. Graffey, *Water, Water, Everywhere, nor Any Drop to Drink: The Urgency of Transnational Solutions to International Riparian Disputes*, 10 GEO. INT'L ENVTL. L. REV. 399 (1998).

82. Jutta Brunnee & Stephen J. Toope, *Environmental Security and Freshwater Resources: Ecosystem Regime Building*, 91 AM. J. INT'L L. 26, 37 (1997).

83. C.B. Bourne, *Mediation, Conciliation, and Adjudication in the Settlement of International Drainage Basin Disputes*, 9 CAN. Y.B. INT'L L. 114, 139-40 (1971).

of adjudication, which is aimed at remedy and not prevention, fails to provide adequate relief to the parties in conflict. Instead, processes that can be used during earlier stages of a conflict offer superior results.

C. Source Challenges

A fundamental challenge to the process of adjudicating disputes is finding appropriate and well-defined sources of law upon which to base judicial decisions. When the law is poorly developed, it can be difficult for courts and tribunals to provide decisions that resolve disputes on their merits.⁸⁴ This is a challenge for the resolution of disputes involving environmental issues for several reasons. First, there is little consensus about the definition of international environmental disputes,⁸⁵ making it difficult to distinguish sources of environmental law from general international law. Second, international law is not well developed in many areas that are essential for judicial decision making on environmental matters. One example is the lack of legal protection for harms affecting global common areas—the atmosphere for instance—that do not otherwise directly affect the legal rights or interests of any one particular state.⁸⁶ Many disputes arising out of climate change will raise issues not yet developed in international law, particularly those dealing with protecting scarce resources that belong to the international community as a whole.

When considering environmental issues in cases, judges and arbitrators must also deal with the special international legal character of environmental norms.⁸⁷ Environmental disputes raise concerns about international law's ability to prevent harms and

84. See, e.g., *Gabcikovo-Nagymaros Project* (Hung. v. Slov.), 1997 I.C.J. 7, 74 (Sept. 25) (recognizing the special nature of environmental protection in requiring prevention and in the limitations of traditional reparations).

85. Romano (2000), *supra* note 4, at 13-29 (discussing variations on definitions of the terms "international," "dispute," and "environment").

86. See generally Alan E. Boyle, *Remedying Harm to International Common Spaces and Resources: Compensation and Other Approaches*, in *HARM TO THE ENVIRONMENT: THE RIGHT TO COMPENSATION AND THE ASSESSMENT OF DAMAGES* 83 (Peter Wetterstein ed., 1997); Tullio Scovazzi, *State Responsibility for Environmental Harm*, 12 Y.B. INT'L ENVTL. L. 43 (2001).

87. For a comprehensive treatment of this issue, see Int'l Law Comm'n, *Report on State Responsibility*, ¶¶ 82-119, U.N. Doc. A/CN.4/507 (Mar. 15, 2000) (prepared by James Crawford).

provide adequate remedies.⁸⁸ They also present doctrinal challenges with regard to standing, legal interest, and injury.⁸⁹ For example, how should courts treat environmental claims that are not bilateral? Article 48 of the Rules on State Responsibility supports *erga omnes*,⁹⁰ or allowing “an injured State to invoke the responsibility of another State if the obligation breached is owed to . . . a group of States including that State, or the international community as a whole” and, in this way, states may elect to trigger a form of *actio popularis* complaint for an environmental matter.⁹¹ This permits states to seek protection and claim remedies for harms to the environment not because the harm directly impacts that state, but because it impacts the international community as a whole.⁹² However, in practice, there is limited support that these principles have been accepted as customary international law.⁹³

Treaties, as the main source of international environmental law, offer another basis for court decisions. The difficulty with treaties as a source is that they require explicit state consent and therefore specific provisions that address sensitive issues are difficult to reach.⁹⁴ Stringent standards that achieve environmental protection are often sacrificed to attain increased participation.⁹⁵ As a result, provisions can be vague, leading to confusion about questions of breach or enforcement.⁹⁶ For example, the United Nations

88. Fitzmaurice, *supra* note 77, at 18-19.

89. *Id.*

90. Responsibility of States for Internationally Wrongful Acts art. 48, G.A. Res. 56/83, Annex, U.N. Doc. A/RES/56/83 (Dec. 12, 2001).

91. *Id.* at art. 42; *see, e.g.*, Nuclear Tests (Austl. v. Fr.) 1974 I.C.J. 253 (Dec. 20); Nuclear Tests (N.Z. v. Fr.), 1974 I.C.J. 457 (Dec. 20); *see also* STEPHENS, *supra* note 62, at 67 (describing the relationship between the ILC’s treatment, customary international law, and the ICJ’s treatment of *erga omnes* for environmental harms); CHRISTIAN J. TAMS, ENFORCING OBLIGATIONS ERGA OMNES IN INTERNATIONAL LAW 27 (2005).

92. *See* JAMES CRAWFORD, INTERNATIONAL LAW AS AN OPEN SYSTEM 341-59 (2002).

93. *See, e.g.*, Barcelona Traction, Light, and Power Co., Ltd. (Belg. v. Spain) (second phase) 1970 I.C.J. 3, 33 (Feb. 5) (noting the existence of general obligations for prohibition on acts of aggression, genocide, slavery, and racial discrimination).

94. *See, e.g.*, NATIONAL RESEARCH COUNCIL, INTERNATIONAL CONFLICT RESOLUTION AFTER THE COLD WAR 263 (Paul C. Stern & Daniel Druckman eds., 2000) (evaluating why international agreements on world agricultural prices are difficult to reach).

95. *See* STEPHENS, *supra* note 62, at 63 (discussing the dangers of weakened environmental laws and how partial compliance with tough laws can lead to better protection than full compliance with less stringent laws).

96. For a discussion about enforcement challenges, *see* Kal Raustiala, *Form and Substance in International Agreements*, 99 AM. J. INT’L L. 581 (2005).

Convention on the Law of the Non-Navigational Uses of International Watercourses, which offers comprehensive protection for transboundary watercourses, has not yet entered into force.⁹⁷ It calls for equitable and reasonable use, cooperation, exchange of information, and duty not to cause significant harm, but fails to clarify what constitutes an appreciable harm under the treaty.⁹⁸ Treaties have also overemphasized enforcement and compliance as a proxy for substantive achievement.⁹⁹ For example, under the 1969 Vienna Convention on the Law of Treaties, parties have the power to suspend the operation of a multilateral treaty with a breaching party upon proving that a material breach occurred.¹⁰⁰ However, this is difficult to do and largely ineffective for the purposes of enforcing environmental protection.¹⁰¹

Despite these limitations, environmental treaties are increasingly common and many provide their own dispute resolution regimes.¹⁰² Consequently, as parties utilize these mechanisms, they are minimizing the role that general international courts serve in adjudicating international environmental

97. Convention on the Law of Non-Navigational Uses of Int'l Watercourses, 27 U.N.T.S. 12 (May 21, 1997), available at http://treaties.un.org/Pages/ViewDetails.aspx?src=UNTS&tabid=2&mtdsg_no=XXVII-12&chapter=27&lang=en#Participants; see also AARON SCHWABACH, INTERNATIONAL ENVIRONMENTAL DISPUTES 88-89 (2006) (noting that the Convention was adopted by the UN General Assembly in 1997 by a vote of 103 for, 3 against, 27 abstentions, and 33 absent).

98. Convention on the Law of Non-Navigational Uses of Int'l Watercourses, General Assembly, Verbatim records of plenary meeting No. 99, at 5, U.N. Doc. A/51/PV.99 (May 21, 1997), available at http://www.un.org/ga/search/view_doc.asp?symbol=A/51/PV.99; see also STEPHEN MCCAFFREY, CONVENTION ON THE LAW OF NON-NAVIGATIONAL USES OF INTERNATIONAL WATERCOURSES (1997), available at <http://untreaty.un.org/cod/avl/ha/clnuiw/clnuiw.html> (describing the Convention).

99. STEPHENS, *supra* note 62, at 63-64 (arguing that focusing on compliance at the cost of achieving effective environmental outcomes is problematic and therefore the focus on norm enforcement over norm generation can be misplaced).

100. International Conference of Plenipotentiaries on the Law of Treaties, G.A. Res. 2166 (XXI), U.N. GAOR, 21st Sess., 1484th plen. mtg., at 60(2), U.N. Doc. A/Res/2166 (Dec. 5, 1966).

101. STEPHENS, *supra* note 62, at 70 (noting that in the *Gabcikovo-Nagymaros Project* case the ICJ did not find that there was enough of a breach to warrant suspension or exclusion and that Japan's expulsion from the 1946 International Convention for the Regulation of Whaling did not remedy its breach (hunting whales despite the moratorium on commercial whaling) and instead likely resulted in nonregulation of its further whaling activities).

102. See, e.g., Intervention on the High Seas Act, 33 U.S.C. §§ 1471-87 (2011) (drafted pursuant to the International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties).

disputes.¹⁰³ In part, this can be attributed to the development of judicial features in environmental treaty regimes supplanting the need for general protections through state responsibility and judicial settlement bodies. However, there is growing concern that international environmental law cannot and should not be separated from general international law.¹⁰⁴ As environmental disputes become more common in an era of climate change, the need to appreciate their special character and their interconnectivity with issues of general international law will grow. Courts and tribunals may need to consider new sources of law or interpret existing sources in new ways to provide effective dispute resolution through adjudication in the future.

D. Process Challenges

Adjudication, as a process of dispute resolution, has several obstacles that limit its effectiveness for resolving international resource disputes.¹⁰⁵ First, adjudication generally prohibits or restricts the participation of nonstate parties through jurisdiction and standing requirements.¹⁰⁶ Second, adjudication is not designed to address extra-legal issues, which are common to complex, multi-issue international resource disputes.¹⁰⁷ Third, adjudication is retroactive. It is not designed to prevent harms from occurring but rather to address harms once they have occurred. Because environmental harms, not to mention the cost of conflicts arising out of them, are often irreparable, adjudication is not an adequate process to address situations that require prevention or management. Fourth, the remedies available through adjudication

103. See STEPHENS, *supra* note 62, at 64 (arguing that the trend toward treaty-based dispute settlement in international environmental cases has sidelined the “general machinery of international law” developed by international courts of general jurisdiction and describing how the reduction of referrals to the ICJ is a consequence of the rise in environmental treaties and treaty-based compliance mechanisms).

104. See *Kasikili/Sedudu Island (Bots. v. Namib.)*, 1999 I.C.J. 1045 (Dec. 13) (arguing that environmental considerations about ecosystems should be taken into account in boundary delimitation).

105. See generally ANAND, *supra* note 7; Merrills, *supra* note 7, at 169-81; Shinkaretskaya, *supra* note 7.

106. CHRISTINE CHINKIN, *THIRD PARTIES IN INTERNATIONAL LAW* 148 (1993); Fitzmaurice, *supra* note 77, at 51 (addressing specifically the nonrecognition of *actio popularis* and the lack of right of standing for nonstate actors).

107. See BIRNIE ET AL., *INTERNATIONAL LAW AND THE ENVIRONMENT* 252-53 (2009); Bilder, *supra* note 6, at 4.

are limited and often inadequate. Fifth, adjudication takes time and is often financially and politically costly. A review of the main international adjudicatory bodies illustrates these and other limitations.

1. *International Court of Justice.*

The International Court of Justice (ICJ) is a permanent court that provides legally binding decisions through judicial settlement.¹⁰⁸ The ICJ Statute establishes that the Court is open to the 185 member states of the United Nations¹⁰⁹ and enjoys universal subject-matter jurisdiction over disputes involving treaty interpretations, questions of international law, facts leading to a breach of an international obligation, and subsequent matters of reparations.¹¹⁰ The ICJ assumes jurisdiction over contentious cases by consent, whether express or implied, of the state parties.¹¹¹ It may also provide advisory opinions to recognized states as well as the UN, its agencies, and organs.¹¹² Other parties have no recourse to bring a claim before the ICJ.¹¹³

The ICJ is limited in its ability to effectively resolve cases involving environmental issues for the following reasons. First, the ICJ remains the venue of last resort for nations engaged in interstate disputes.¹¹⁴ States are reluctant to submit politically sensitive matters to a binding process and the Court is reluctant to overstep its judicial authority to decide such matters.¹¹⁵ Second, there are

108. MERRILLS, *supra* note 39, at 127.

109. Statute of the International Court of Justice art. 34, ¶ 1, 59 Stat. 1055 (1945) ("Only states may be parties in cases before the Court."); *id.* art. 35, ¶ 1 ("The Court shall be open to the states parties to the present Statute.").

110. *Id.* art. 36, ¶¶ 1-6.

111. For provisions on the ICJ's jurisdiction see *id.* arts. 34 & 36; see also MERRILLS, *supra* note 39, at 127-30 (noting that states may consent through a treaty or through acceptance for legal matters according to the provisions specified in Art. 36(2)).

112. Statute of the International Court of Justice arts. 65-68, 59 Stat. 1055 (1945).

113. See Dinah Shelton, *The Participation of Non-Governmental Organizations in International Judicial Proceedings*, 88 AM. J. INT'L L. 611, 619-21 (1994).

114. BERCOVITCH & FRETTER, *supra* note 30, at 27 (noting that the ICJ has "heard little more than one case for every year of its existence"); ROMANO, *supra* note 8, at 92 (also arguing for a more nuanced understanding about why and when states do not prefer adjudication). For discussion about increasing the use and appeal of the ICJ, see CHRISTINE CHINKIN ET AL., *INCREASING THE EFFECTIVENESS OF THE INTERNATIONAL COURT OF JUSTICE* 42-76 (Connie Peck and Roy S. Lee eds., 1997).

115. For more about the judicial-political nature of disputes before the ICJ and their

also concerns, particularly from developing nations, about the Court's lack of diversity and bias toward Western paradigms of the adjudicatory process.¹¹⁶ Third, the ICJ lacks the capacity to consider all potential disputes over which it could assume jurisdiction. From 1946-1997, the ICJ assumed jurisdiction over 75 contentious cases (issuing 62 judgments) and 22 advisory cases.¹¹⁷ Since 1997, the number of cases submitted to the ICJ has grown in size, scope, and complexity. As of June 2011, the ICJ had fifteen cases pending.¹¹⁸ Fourth, when parties do submit a case to the ICJ, proceedings are costly, slow, and often result in the retroactive treatment of a harm that fails to provide a satisfactory remedy.

The question of whether the ICJ is the most suitable forum for adjudicating environmental disputes has arisen before, particularly surrounding the establishment of the ICJ's Chamber of the Court for Environmental Matters in 1993.¹¹⁹ Although no cases were brought before the Chamber, which was discontinued in 2006,¹²⁰ its development did prompt debate about whether environmental disputes require a special international adjudicatory forum and the dangers of distinguishing environmental disputes from general international disputes.¹²¹

The following cases demonstrate challenges the ICJ has had in treating environmental issues.¹²² In the *Gabcikovo-Nagymaros Project* case, where Hungary and Slovakia were at odds over a 1977 treaty to construct a series of dams along the Danube River, the

justiciability see ROMANO, *supra* note 72, at 72-79.

116. See generally MICHELLE BURGIS, *BOUNDARIES OF DISCOURSE IN THE INTERNATIONAL COURT OF JUSTICE* (2009) (challenging the lack of third-world representation at the ICJ and in international judicial institutions).

117. Int'l Ct. of Justice, *Introduction*, 51 INT'L CT. JUST. Y.B. 1, 3-7 (1997).

118. INT'L CT. OF JUSTICE, *LIST OF CONTENTIOUS CASES*, available at <http://www.icj-cij.org/docket/index.php?p1=3&p2=3&sort=2&p3=0> (last visited, Apr. 12, 2011).

119. Sir Robert Jennings, *Need for an Environmental Court?*, 20 ENVTL. POL. & L. 313 (1992).

120. Fitzmaurice, *supra* note 77, at 54-55.

121. See E. Valencia-Ospina, *The International Court of Justice and International Environmental Law*, 2 ASIAN Y.B. INT'L L. 1, 1-10 (1992).

122. See BIRNIE ET AL., *supra* note 107, at 252-53 (showing that judicial settlement and arbitration tend not to cater to the multilateral nature of certain environmental issues); Andrew Strauss, *Climate Change Litigation: Opening the Door to the International Court of Justice*, in *ADJUDICATING CLIMATE CHANGE* 334-56 (William Burns and Hari Osofsky eds., 2009) (discussing the disadvantages of the ICJ as well as its advantages as a venue for litigating climate change disputes).

Court's final judgment did not resolve the dispute.¹²³ Instead, the Court held that "Hungary and Slovakia must negotiate in good faith in the light of the prevailing situation, and must take all necessary measures to ensure the achievement of the objectives of the 1977 Treaty."¹²⁴ In other words, the Court chose not to dictate the specific future conduct of the parties, but instead required the parties to engage in mutual problem solving.¹²⁵ Similarly, in the *Fisheries Jurisdiction Case* (United Kingdom v. Iceland), *Fisheries Jurisdiction Case* (Spain v. Canada) and *Fisheries Jurisdiction Case* (Federal Republic of Germany v. Iceland) the ICJ decided that the parties must determine the substance of the environmental standard to be followed.¹²⁶ The ICJ held that the parties were "under mutual obligations to undertake negotiation in good faith for the equitable solution of their differences"¹²⁷ because "it is implicit in the concept of preferential rights that negotiations are required in order to define or delimit the extent of those rights . . ."¹²⁸ Thus, the Court remanded responsibility for resolving the underlying resource issues to the parties under their obligation to monitor the marine-dwelling resources of that area and to work together to adopt agreed upon measures for conservation and equitable allocation.¹²⁹

In these and other cases, the ICJ did not address the environmental issues on the merits.¹³⁰ The Court has made declarations that certain acts are contrary to international law;¹³¹ decided whether a method of delimiting a fisheries zone is valid;¹³²

123. Gabčíkovo-Nagymaros Project (Hung v. Slov.), 1997 I.C.J. 7, 74 (Sept. 25) (see Part III.B for a description of the case and analysis of the Court's judgment).

124. *Id.* at 80.

125. *Id.*

126. Fisheries Jurisdiction, (U.K. v. Ice.), 1974 I.C.J. 3 (July 25); Fisheries Jurisdiction (Spain v. Can.) 1998 I.C.J. 432 (Dec. 4); Fisheries Jurisdiction (Ger. v. Ice.) 1974 I.C.J. 175 (July 25).

127. Fisheries Jurisdiction (U.K. v. Ice.) 1974 I.C.J. 3, ¶ 79 (July 25).

128. *Id.* ¶¶ 74-75.

129. STEPHENS, *supra* note 62, at 73.

130. Legality of the Use by a State of Nuclear Weapons in Armed Conflict, Advisory Opinion, 1996 I.C.J. 93 (July 8); Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, 1996 I.C.J. 95 (July 8); Certain Phosphate Lands in Nauru (Nauru v. Austl.), 1990 I.C.J. 1, 241 (May 19); Nuclear Tests (N.Z. v. Fr.), 1974 I.C.J. 457 (Dec. 20); Nuclear Tests: Application to Be Permitted to Intervene Under Article 62 (N.Z. v. Fr.), 1995 I.C.J. Pleadings (Aug. 24).

131. Ian Brownlie, *Causes of Action in the Law of Nations*, 1979 BRIT. Y.B. INT'L L. 13 (1979).

132. Fisheries Jurisdiction (U.K. v. Ice.), 1974 I.C.J. 3 (July 25); Fisheries Jurisdiction

determined the violation of the sovereignty of a state over natural resources;¹³³ decided if a state failed to comply with international environmental standards as a basis for state responsibility;¹³⁴ and determined if there has been an unlawful confiscation, destruction, or detention of property.¹³⁵ These examples demonstrate that the ICJ's contribution to resolving complex, environmental disputes is to clarify facts, decide matters of law, and, at times, order parties to engage in further methods of dispute resolution.

2. *The Permanent Court of Arbitration.*

The Permanent Court of Arbitration was established by treaty in 1899 as an intergovernmental organization that provides dispute resolution through arbitration as well as conciliation, fact-finding, and inquiry.¹³⁶ The PCA differs from the ICJ in that it allows claims from nonstate actors where at least one party to the dispute is a state, state-controlled entity, or international organization. It also offers procedural rules for the arbitration and conciliation of disputes relating to natural resources and the environment.¹³⁷ Parties commonly agree in advance through a treaty or other international agreement that the outcome will be legally binding.

However, despite these advancements, the PCA remains limited by its adjudicatory approach.¹³⁸ For example, in the *Abyei Arbitration*, the Government of Sudan and the People's Liberation Army of Sudan were engaged in a territorial dispute over boundary

(Ger. v. Ice.), Judgment, 1974 I.C.J. 175 (July 25).

133. See, e.g., *Legality of the Use by a State of Nuclear Weapons in Armed Conflict*, Advisory Opinion, 1996 I.C.J. 93 (July 8); *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, 1996 I.C.J. 95 (July 8); *Phosphate Lands in Nauru* (Nauru v. Austl.) 1989 I.C.J. 4 (May 19); *Nuclear Tests (N.Z. v. Fr.)*, 1974 I.C.J. 457 (Dec. 20).

134. For additional treatment of the Doctrine on State Responsibility in reference to environmental harms, see *Responsibility of States for Internationally Wrongful Acts*, Report of the International Law Commission, 53d Sess., at 43-59, UN Doc. A/56/10 (2001); STEPHENS, *supra* note 62, at 66.

135. See, e.g., *Trail Smelter* (Can. v. U.S.) 3 REPS. OF INT'L ARB. AWARDS 1905, 1911 (1941).

136. *About Us*, PERMANENT COURT OF ARBITRATION, http://www.pca-cpa.org/showpage.asp?pag_id=1027 (last visited April 14, 2011).

137. *Rules of Procedure*, PERMANENT COURT OF ARBITRATION, http://www.pca-cpa.org/showpage.asp?pag_id=1188 (last visited Apr. 19, 2011).

138. See Convention for the Pacific Settlement of International Disputes art. 16, July 29, 1899, available at www.pca-cpa.org/upload/files/1899ENG.pdf (noting that arbitration is the "most effective . . . means of settling disputes which diplomacy has failed to settle").

demarcation as well as oil, water, and grazing rights.¹³⁹ The PCA divided the territory between the two parties by issuing new boundaries. This effectively reduced the Abyei Area and demarcated the oil fields to the territory belonging to the North.¹⁴⁰ The PCA's decision settled the legal matter but did not resolve the underlying resource disputes. Instead, the PCA determined that the parties were to take the next step, noting the need to develop a "survey team to demarcate the Abyei Area as delimited by this Award" and that "the Tribunal hopes that the spirit of reconciliation and cooperation visible throughout these proceedings, particularly during the oral pleadings last April, will continue to animate the Parties on this matter."¹⁴¹

While the parties accepted the PCA's ruling, calling it legitimate, transparent and fair,¹⁴² they now bear the responsibility for pursuing resolution through other means. The precise nature and timing of these additional methods remain unspecified and the underlying issues pertaining to oil, water, and grazing rights remain unresolved. The failure of the final award to address these outstanding issues and promote reconciliation was among the critiques expressed by Judge Awn Shawkat Al-Khasawneh in his dissenting opinion.¹⁴³

3. *International Tribunal for the Law of the Sea.*

The International Tribunal for the Law of the Sea (ITLOS) was

139. Abyei (Gov't of Sudan v. Sudan People's Liberation Movement/Army), 48 I.L.M. 1258 (Perm. Ct. Arb. 2009). The parties signed the Arbitration Agreement on July 7, 2008 authorizing the referral of the dispute to the PCA for final and binding arbitration. The PCA was to decide whether or not the Abyei Boundaries Commission (ABC), established by the Comprehensive Peace Agreement (CPA), exceeded its mandate under the CPA to delimit and demarcate an area identified as the nine Ngok Dinka chiefdoms. The parties agreed in the Arbitration Agreement to authorize the PCA, upon a finding that the Commission did exceed its mandate, to delimit and demarcate the area in dispute. On January 9, 2005, the Government of Sudan and the Sudan People's Liberation Movement/Army entered into the CPA. *Id.*

140. *Id.*

141. *Id.* ¶ 769.

142. *Id.*

143. *See id.* ¶ 202 (Awn Shakat Al-Khasawneh, J., dissenting) (discussing the missed opportunity for promoting true peace and reconciliation of the parties and noting that "[i]nternational law and indeed law in general sometimes provide only simple recipes for complex situations where populations and tribes intermingle and where the livelihood of certain groups transcends borders").

established by the UN Convention on the Law of the Sea (UNCLOS) as a permanent court with mandatory jurisdiction over all State parties to UNCLOS.¹⁴⁴ ITLOS has experience with several resource cases involving the seabed, marine resources and use of international waters including the *MOX Plant* case, where Ireland claimed the United Kingdom was in breach of the UNCLOS treaty for failure to protect the ocean and the “*Volga*” case between the Russian Federation and Australia over the conservation of fish.¹⁴⁵ UNCLOS mandates compulsory and binding third-party dispute resolution through ITLOS, ICJ, or arbitration for disputes pertaining to the application of the Convention.¹⁴⁶ However, when disputes are taken up by ITLOS, the Tribunal’s jurisdiction has not always prevailed. For example, in *Southern Bluefin Tuna*, where Australia and New Zealand brought a claim against Japan for overfishing Bluefin tuna in the South Pacific, the Tribunal found that it lacked jurisdiction over the case. This determination was due to the fact that the 1993 Convention for the Conservation of Southern Bluefin Tuna also governed the dispute, which frustrated the compulsory dispute resolution provisions of article 28(1) of UNCLOS.¹⁴⁷ The Tribunal’s ruling was based on its interpretation that UNCLOS articles 279-282 afforded Japan the right to pursue recourse under the preexisting convention, which required Japan’s consent to arbitration, thereby supplanting UNCLOS’s compulsory provisions.¹⁴⁸

144. Fitzmaurice, *supra* note 77, at 145-46 (noting that ITLOS judges are required to have competency in the field of the Law of the Sea); Sands, *supra* note 54, at 40-41.

145. *MOX Plant* (Ire. v. U.K.), Order, I.T.L.O.S. No. 6 (June 6, 2008), available at <http://www.pca-cpa.org/upload/files/MOX%20Plant%20Order%20No.%206.pdf>; “*Volga*” Case (Russ. v. Austl.), I.T.L.O.S. No. 11 (December 23, 2002), available at http://www.itlos.org/cgi-bin/cases/case_detail.pl?id=11&lang=en. For additional cases involving natural resources before the Tribunal, see *Land Reclamation by Singapore in and Around the Straits of Johor* (Malay. v. Sing.), Case No. 12, Request for Provisional Measures (Sept. 4, 2003), available at <http://www.itlos.org>; *Access to Information Under Article 9 of the OSPAR Convention* (Ir. v. U.K.), Final Award (Perm. Ct. Arb. July 2, 2003), 42 I.L.M. 1118 (2003), 23 REPS. OF INT’L ARB. AWARDS 59 (2004); see also *International Environmental Law in International Tribunals* (Karen Lee ed.), in 5 INT’L ENVTL. REPS. 421, 421-44, 445-65 (2007).

146. UNCLOS art. 287, available at http://www.un.org/Depts/los/convention_agreements/texts/unclos/unclos_e.pdf; see MERRILLS, *supra* note 39, at 184-85 (discussing the principle of compulsory settlement).

147. *Southern Bluefin Tuna* (Austl. & N.Z. v. Japan) 39 I.L.M. 1359 (2000).

148. UNCLOS art. 279-82, available at http://www.un.org/Depts/los/convention_agreements/texts/unclos/unclos_e.pdf; see also YASUHIRO SHIGETA, *INTERNATIONAL JUDICIAL CONTROL OF ENVIRONMENTAL PROTECTION* 48-51 (2010).

4. WTO & ICSID.

Disputes over resources and other environmental matters are often raised in connection with trade and investment disputes. There are two major forums for the adjudication of such disputes. The first, the World Trade Organization's Dispute Settlement Body (WTO DSB), administers settlement, consultations, and panels for trade disputes occurring between its 153 State members.¹⁴⁹ Non-members, which include companies and individuals, cannot directly bring claims before the WTO DSB. The WTO DSB's subject-matter jurisdiction extends to all disputes arising under WTO agreements.¹⁵⁰ Disputes arising under these agreements often include environmental and natural resource issues. The difficulties arising from the WTO DSB's handling of such crosscutting subject matter disputes are exposed in the *Tuna-Dolphin* cases and the *Shrimp-Turtle* cases.¹⁵¹

A second forum for the resolution of international investment disputes is the International Centre for the Settlement of Investment Disputes (ICSID).¹⁵² ICSID sets forth procedural rules for the arbitration and conciliation of investment disputes among members to the Convention, which includes States as well as their nationals (both individuals and companies).¹⁵³ Although ICSID arbitration allows for the participation of nonstate actors, that participation is

149. Understanding on Rules and Procedures Governing the Settlement of Disputes art. 3, April 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 2, Legal Instruments—Results of the Uruguay Round, 33 I.L.M. 1125 (1994).

150. WORLD TRADE ORGANIZATION, A HANDBOOK ON THE WTO DISPUTE SETTLEMENT SYSTEM 10 (2004) (including the WTO Agreement, 1994 GATT, and the Agreement on TRIPS).

151. Report of the Panel, *United States-Restrictions on Imports of Tuna*, GATT/DS21/R (Sept. 3, 1991); Report of the Panel, *United States-Restrictions on Imports of Tuna*, GATT/DS29/R (June 16, 1994); Report of the Panel, *United States-Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/R WT/DS58/AB/R (1998) (May 15, 1998); see also STEPHENS, *supra* note 62, at 325-31 (discussing the implications of the *Tuna-Dolphin*, *Shrimp-Turtle I* and *II* cases including the Appellate Body's finding that sea turtles are "exhaustible natural resources").

152. See Convention on the Settlement of Investment Disputes between States and Nationals of Other States arts. 25(1)-(2), Mar. 18, 1965, 575 U.N.T.S. 159 (outlining the scope of the ICSID's jurisdiction).

153. The Additional Facility Rules also allow for cases involving parties not contracted to the Convention or cases involving non-investment issues. See Rules Governing the Additional Facility for the Admin. of Proceedings by the Secretariat of the Int'l Ctr. for Settlement of Inv. Disputes art. 2, available at, <http://icsid.worldbank.org/ICSID/StaticFiles/facility/partA-article.htm> (granting ICSID jurisdiction over certain additional parties).

limited, as demonstrated in *Biwater Gauff v. Tanzania*, where the Tribunal determined that the rules did not empower States to permit the presence or participation of non-governmental organizations.¹⁵⁴

IV. WHERE ADJUDICATION FAILS

As discussed in Part III, this Article argues that source and process limitations hinder the adjudication of international resource disputes. This part considers four areas where these limitations are evident: A) nonparticipation, B) failure to address the issues, C) noncompliance, and D) recurrence. Although these categories are not comprehensive, they do provide a basis for observing the inadequacy of adjudication in this context.

A. Nonparticipation

Nonparticipation can be identified by cases in which parties reject adjudication or refuse to participate. States are often hesitant to submit politically sensitive cases to adjudicative bodies because they have no control over the outcome.¹⁵⁵ Courts can also be reluctant to ask politically sensitive questions and thus become reliant on the parties to present matters of fact.¹⁵⁶ There is “little incentive to resort to adjudication as a way of clarifying or developing general rules.”¹⁵⁷ The ICJ, PCA, and other courts do not document cases of non-participation. Therefore, identifying such

154. *Biwater Gauff v. Tanz.*, I.C.S.I.D. No. ARB/05/22, Procedural Order No. 5, 2, ¶¶ 69-72 (Feb. 2007) (specifically analyzing Arbitration (Additional Facility) Rule 32(2)); see Kyla Tienhaara, *Third Party Participation in Investment-Environment Disputes: Recent Developments*, 16 RECIEL 230 (2007) (noting that the non-state parties in *Biwater Gauff v. Tanzania* were allowed to submit amicus briefs but were not permitted to attend hearings or access unpublished documents without full permission of all the state parties); see also PHILLIPE SANDS, *PRINCIPLES OF INTERNATIONAL ENVIRONMENTAL LAW* 144 n.102 (2003).

155. See Stephen Gent and Megan Shannon, *The Effectiveness of International Arbitration and Adjudication: Getting Into a Bind*, 72 J. POL. 366 (2010) (finding through an empirical study that states do not submit to adjudication in cases where they believe there is a high likelihood for an unfavorable outcome, but noting that adjudication is more likely than nonbinding IDR methods to end territorial disputes because of this selection bias and because legal principles enhance the credibility of the outcome mitigating non-compliance due to reputational costs and domestic political pressures).

156. Ian Brownlie, *The Peaceful Settlement of International Disputes*, 8 CHINESE J. INT'L L. 267, 281-82 (2009).

157. Richard Bilder, *Some Limitations of Adjudication as an International Dispute Settlement Technique*, 23 VA. J. INT'L L. 2, 5 (1982).

cases requires studying the lifecycle of a dispute in order to determine when parties have dismissed adjudication as an IDR approach.

Sometimes parties definitively reject adjudication. For example, when negotiating the terms of the *Indus River Treaty*, India and Pakistan decided against the use of arbitration.¹⁵⁸ They have only used a third-party neutral from the Permanent Indus Commission to facilitate the resolution of water disputes once in the fifty years since they formed the agreement.¹⁵⁹ In the *Beagle Channel Dispute*, Argentina and Chile signed an agreement to submit the dispute to the ICJ in 1964, but in 1967, Chile rejected the use of the ICJ as a forum.¹⁶⁰

In other cases, the parties explicitly agree not to use adjudication or imply as much through practice. For example, in the *Mekong River Dispute* between Thailand and Laos, the parties did not include adjudication as a dispute resolution option under their 1995 Agreement on the Cooperation for the Sustainable Development of the Mekong Basin.¹⁶¹ The river dispute was part of a larger ongoing border dispute between the two nations and in 1995 the parties developed the Mekong Agreement, stating that “[w]hensoever any difference or dispute may arise between two or more parties to this Agreement . . . the [Mekong River] Commission shall first make every effort to resolve the issue In the event the Commission is unable to resolve the difference or dispute within a timely manner, the issue shall be referred to the Governments” to resolve through negotiation, facilitation, or mediation in accordance with the principles of international law.¹⁶² This omission reflects the

158. Indus Waters Treaty, India-Pak., Int’l Bank for Reconstruction and Development, Sept. 19, 1960, 419 U.N.T.S. 125.

159. Mary Miner et al., *Water Sharing Between India and Pakistan: A Critical Evaluation of the Indus Water Treaty*, 34 WATER INT’L 204, 207 (2009); PRISCOLI & WOLF, *supra* note 20, at 190-91.

160. Lisa Lindsley, *The Beagle Channel Settlement: Vatican Mediation Resolves a Century-Old Dispute*, 29 J. CHURCH & ST. 435, 437 (1987) (noting that in this case, the parties did elect to use arbitration by a British panel several years later).

161. Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, 34 I.L.M. 864 (1995), available at http://www.mrcmekong.org/agreement_95/agreement_95.htm; see also Kenyuan Zou, *Transnational Cooperation for Managing the Control of Environmental Disputes in East Asia*, 16 J. ENVTL. L. 341, 345-47 (2004) (noting that only diplomatic and non-judicial dispute settlement mechanisms are permitted per the 1995 Agreement between the parties).

162. *Id.* at arts. 34-35.

reluctance of the parties to use adjudication. In the *Amur River Dispute* between China and Russia, at issue was the unclear boundary demarcation along a portion of the Amur River and several islands.¹⁶³ Although a legal question—Russia claimed that ownership rights were granted under the 1858 Treaty of Adigun and the 1860 Peking Treaty—the parties decided against adjudication and chose to resolve the dispute through a joint field-mapping exercise of the disputed area in which they agreed to divide the islands in half.¹⁶⁴ The parties were so satisfied with this approach that they followed a similar arrangement in the *Argon River Dispute*.¹⁶⁵

B. Failure to Address Issue

This category includes cases that were submitted to court or tribunal for adjudication but where the decision failed to adequately resolve the resource dispute. The first example is the ICJ's September 27, 1997 decision in the *Gabcikovo-Nagymaros Project* case.¹⁶⁶ The decision did not address all the issues of the dispute in a manner that led to a resolution.¹⁶⁷ Specifically, the Court did not address the future conduct of the parties with regard to operating the existing dam or building additional ones. Instead, the Court ordered the parties to cooperate on these endeavors.¹⁶⁸ Slovakia and Hungary began negotiations on the implementation of the ICJ Judgment in October 1997.¹⁶⁹ Since that time they have not reached agreement on the central issues (such as the amount of water to be released into the riverbed and plans for the Nagymaros Dam).¹⁷⁰ The implementation of the ICJ's decision has been slow and difficult and it is unclear if the ICJ will provide helpful clarification that will prompt resolution should the parties' cooperative efforts fail. Such unresolved issues and tensions leave the potential for recurrence of

163. GUO, *supra* note 31, at 45-47.

164. *Id.*

165. *Id.* at 50-51.

166. Refer to Part II.D.1 for a description of the case.

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

168. *Id.*; see also SCHWABACH, *supra* note 97, at 59 (describing the ICJ's decision and noting the ICJ's recognition that the parties should seek an agreed upon solution within the context of the Treaty).

169. Marcel Szabo, *Gabcikovo-Nagymaros Dispute*, 39 ENVTL. POL. & L. 97 (2009).

170. *Id.*

the dispute.

A second example is the ongoing dispute between Guyana and Suriname over their border. The first territory in dispute is the New River Triangle area, a coastal region believed to be rich in gas and oil.¹⁷¹ In 1969, Guyanese forces overpowered Surinamese troops seeking to occupy the New River Triangle area and in 2000, Suriname was allegedly preparing to retaliate with an invasion.¹⁷² In a separate but related dispute over the maritime boundary, Guyana unilaterally referred the case to arbitration proceedings under UNCLOS, Annex VII.¹⁷³ In September 2007, the tribunal awarded 65% of the disputed area of 31,600 square kilometers to Guyana and affirmed Suriname's control over the mouth of the Corentyne River.¹⁷⁴ Subsequent actions by the parties suggest that this decision did not resolve the dispute as tensions between the parties remain.¹⁷⁵ For example, in 2008 Suriname seized a Guyanese ship on the Corentyne River.¹⁷⁶

Third, in the *Aegean Sea Dispute* between Greece and Turkey at issue was the ownership of a section of the Aegean Sea.¹⁷⁷ On August 25, 1976 the UN Security Council, in Resolution 395, ordered the parties to negotiate and reach a successful agreement.¹⁷⁸ When negotiations failed, the ICJ assumed jurisdiction over the case and on

171. Jianjun Gao, *Comments on Guyana v. Suriname*, 8 CHINESE J. INT'L L. 191, 193 (2009).

172. *Id.* at 192-93; *see also* Christian Volkel, *Tensions Resurface Between Guyana, Suriname*, GLOBAL INSIGHT (Feb. 18, 2010).

173. United Nations Convention on the Law of the Sea arts. 279-83, Dec. 10, 1982, 1833 U.N.T.S. 397; *see also* Stephen Fietta, *Guyana/Suriname*, 102 AM. J. INT'L L. 119, 120 (2008) (giving a detailed explanation of the events leading up to the arbitration and the decision).

174. Gao, *supra* note 171, at 199 (noting that the Tribunal also held that Suriname's 2000 acts against the oil rig and drill ship constituted a threat of the use of force in violation of UNCLOS, UN Charter and general international law and that both countries breached their duties under UNCLOS in pursuance of a final delimitation agreement).

175. Volkel, *supra* note 172 (noting that the Guyanese Minister of Foreign Affairs, Carolyn Rodrigues-Birkett, recently admonished the Surinamese government for its alleged failure to assure that use of force is not an option).

176. *Nervous Neighbors: Guyana and Suriname*, STABROEK NEWS, Nov. 5, 2008, available at <http://www.stabroeknews.com/2008/guyana-review/11/05/nervous-neighbours-guyana-and-suriname>.

177. GUO, *supra* note 31, at 42-43.

178. S.C. Res. 395, ¶ 3, U.N. Doc. S/RES/395 (Aug. 25, 1976), available at <http://www.un.org/documents/sc/res/1976/scres76.htm> (calling "upon the Governments of Greece and Turkey to resume direct negotiations over their differences").

September 11, 1976 ruled that the Aegean Sea was beyond the territorial waters of both States.¹⁷⁹ The legal matter was decided, but tensions remained. Despite the creation of the 1976 Bern Agreement's code of conduct governing future negotiations, this dispute is ongoing.¹⁸⁰

Similarly, the ICJ's decision in *Land, Island and Maritime Frontier Dispute* concerning the border dispute between Honduras and El Salvador, which resulted in war in 1969, has not led to the resolution of the dispute or the finalization of the border delimitation.¹⁸¹

C. Noncompliance

Noncompliance occurs when adjudication produces a decision but one or more of the parties to the dispute rejects or fails to implement it. A classic example of noncompliance in this context is the *Beagle Channel Dispute*, which was also discussed as an example of nonparticipation in Part IV.A. During the nineteenth and twentieth centuries, Argentina and Chile had an ongoing dispute over who owned the set of islands at the tip of the continent.¹⁸² The owner would have claims to Atlantic territory, marine resources, and potentially oil. In 1964, Argentina and Chile signed an agreement to submit the dispute to the ICJ, but in 1967, Chile negated its obligation.¹⁸³ In 1971, after failed negotiations, the parties agreed to submit the matter to a British arbitration panel. The panel awarded the Beagle Channel islands to Chile in 1977. Argentina then rejected the award.¹⁸⁴ Ultimately, under the threat of war between the two countries, Pope John Paul II facilitated a mediation process by the Vatican that successfully resolved the dispute in 1985 by awarding the islands to Chile while granting

179. Aegean Sea Continental Shelf (Greece v. Turk.), 1978 I.C.J. 3 (Dec. 19).

180. Bern Agreement between Turkey and Greece (Nov. 11, 1976), available at <http://www.turkishgreek.org/bern.htm>; GUO, *supra* note 31, at 42-43.

181. Land, Island and Maritime Frontier Dispute (El Sal. v. Hond.: Nicar. intervening) 1992 I.C.J. 351 (Sept. 11); see also Manuel Orozco, *Boundary Disputes in Central America: Past Trends and Present Developments*, 14 PENSAMIENTO PROPIO 105, 105-07 (2001) (describing the history of this conflict and attempts to resolve it).

182. James Garrett, *The Beagle Channel Dispute: Confrontation and Negotiation in the Southern Cone*, 27 J. INTERAMER. STUD. & WORLD AFF. 81 (1985).

183. Lindsley, *supra* note 160, at 437.

184. *Id.*

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Argentina control over the Atlantic side.¹⁸⁵

D. Recurrence

Recurrence occurs when, after a period of relative inactivity, an existing dispute or conflict returns. Between 1990 and 2007, 48% of all international armed conflicts with at least 1000 deaths were recurrence events where the prior conflict had ended no more than five years earlier.¹⁸⁶ Recurrence signals the limitations of adjudication in the following ways. First, the slow pace of the adjudicatory process frustrates the need to address in a timely manner issues that lead to conflict. Second, even when a decision or judgment is made, the failure to address the issues on the merits in ways that resolve the dispute increases the risk that it will recur, and often, escalate. Courts and tribunals do not track the lifecycle of the dispute after the matter has been decided and there are no comprehensive records about recurrence as a result of adjudication. Lifecycle analysis of disputes, and the conflicts of which they are a part, provides illustrative examples, but without further empirical study, conclusions remain subject to additional research in this area.

V. BEYOND ADJUDICATION: THE PROMISE OF INTEGRATED IDR

Parts III and IV have presented support for this Article's claim that international adjudication is limited in its effectiveness as a process for resolving international resource disputes. If this is indeed the case, what alternatives might increase adjudication's effectiveness in this context? This Part explores this question and, in response, suggests that adjudication becomes more effective when it is combined with interest-based IDR methods. Three case studies illustrate the successful use of such integrated approaches in resolving international resource disputes and the armed interstate conflicts they were a part of. While not demonstrating that this approach will always prove superior to adjudication alone, these cases suggest a starting point worthy of further analysis.

185. THOMAS PRINCEN, *INTERMEDIARIES IN INTERNATIONAL CONFLICT* 133-85 (1992) (describing the Vatican's six-year mediation efforts that lead to the resolution of the dispute).

186. Lawrence Woocher, *Preventing Violent Conflict: Assessing Progress, Meeting Challenges*, USIP SPECIAL REPORT 1, 5-6 n. 21, September 2009 (finding that 48% of all conflicts and 30% of conflicts with at least 1000 battle-related deaths between 1990 and 2007 occurred in states where a conflict had ended no more than five years prior).

A. *Criteria for Resolving International Resource Disputes*

If adjudication is limited in its ability to resolve international resource disputes, what type of dispute resolution process would be more beneficial? Designing such a process first requires recognizing several aspects that make these disputes challenging to address. International resource disputes are multi-faceted. They involve social, cultural, political, and economic issues that raise complex scientific questions,¹⁸⁷ and are often beyond the scope of the law.¹⁸⁸ They also involve diverse stakeholders, in part because natural resources can cross a variety of geographical dimensions and legal jurisdictions.¹⁸⁹

Addressing these types of disputes requires assessing the full range of issues, needs, interests, and demands of the relevant stakeholders.¹⁹⁰ Power imbalances, often arising from the unequal allocation of resources, must also be taken into account.¹⁹¹ Resolving disputes over something as vital to human survival as natural resources should incorporate those parties most affected by the outcome.¹⁹² Increased participation by diverse actors reshapes the discourse from legal rights over sovereignty and territory to

187. GARY C. BRYNER, FROM PROMISES TO PERFORMANCE: ACHIEVING GLOBAL ENVIRONMENTAL GOALS 4-5 (1997).

188. Stephen C. McCaffrey, *Water Disputes Defined: Characteristics and Trends for Resolving Them*, in RESOLUTION OF INTERNATIONAL WATER DISPUTES 86-88 (Int'l Bureau of Perm. Ct. Arb. ed., 2003) (concluding that political tension is the "greatest single factor responsible for increasing the severity and intractability of water disputes, and sometimes even causing them").

189. See generally PRISCOLI & WOLF, *supra* note 20.

190. *Id.* at 101-02. See generally, UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT, BUREAU FOR ASIA AND THE NEAR EAST, RESOLVING WATER DISPUTES: CONFLICT AND COOPERATION IN THE UNITED STATES, THE NEAR EAST AND ASIA (Gail Bingham et al. eds., 1994); Patricia Wouters, *Universal and Regional Approaches to Resolving International Water Disputes: What Lessons Learned from State Practice*, in RESOLUTION OF INTERNATIONAL WATER DISPUTES 111, 137 (2000).

191. For examples of effective international resource dispute management, see PRISCOLI & WOLF, *supra* note 20, at 53-84 and BRIDGES OVER WATER: UNDERSTANDING TRANSBOUNDARY WATER CONFLICT, NEGOTIATION AND COOPERATION 85-96 (Ariel Dinar et al. eds., 2007) (both providing case studies of the management of transboundary water disputes that illustrate what criteria were effective in each context).

192. See PRISCOLI & WOLF, *supra* note 20, at 45; Harold H. Saunders, *Interactive Conflict Resolution: A View for Policy Makers on Making and Building Peace*, in PAUL C. STERN & DANIEL DRUCKMAN, INTERNATIONAL CONFLICT RESOLUTION AFTER THE COLD WAR 251, 263-93 (2000) (introducing the concept of interactive conflict resolution and arguing that for post-conflict situations, methods must aim to maximize participation at the right levels); Brunnee & Toope *supra* note 82, at 41-42.

interest-based problem solving. It also places responsibility of solving the problem on the parties involved and not on a court or tribunal.

These dispute resolution approaches embody the principle of subsidiarity,¹⁹³ which has proven valuable in a variety of contexts.¹⁹⁴ In his separate opinion in the *Gabčíkovo-Nagymaros Project* case, ICJ Judge Weeramantry emphasized the importance of subsidiarity in referencing local customary law and negotiation practices on traditional water management in Bali as guidance for the case.¹⁹⁵ It encourages diversity in settlement procedures and ensures the availability of culturally and contextually appropriate practices.¹⁹⁶ This in turn creates a flexible system capable of adapting to new circumstances and avoiding undue constraint from legal precedents that diverge from demographic and other realities. It also helps mitigate regional differences between judicial forums (for example, the EU's emphasis on compliance with the rule of law through courts as compared to the ASEAN focus on non-judicial dispute settlement) that highlight differences in normative approaches.¹⁹⁷

B. Enhancing Adjudication Through Integrated IDR Approaches

Adjudication's many strengths are vital to international dispute resolution. While this Article has argued that adjudication *alone* is often an ineffective method for resolving international resource disputes, this part explores how it may be more effective by

193. ANNE MARIE SLAUGHTER, A NEW WORLD ORDER 30 (2004) (defining subsidiarity as "a principle of locating governance at the lowest possible level—that closest to the individuals and groups affected by the rules and decisions adopted and enforced").

194. PRISCOLI & WOLF, *supra* note 20, at 3, 95, and 106 (discussing the need to keep problem-solving local for effective management of water disputes); Greg Mills, *Mission Improbable*, in CONUNDRUM: THE LIMITS OF THE UNITED NATIONS AND THE SEARCH FOR ALTERNATIVES 57-64 (Brett Schaefer ed., 2009). For an example of treaty language on subsidiarity, see the 1992 Treaty of Maastricht (establishing the foundations of the European Union, 1985 European Charter of Local Government, European Community Treaty Protocol 30).

195. *Gabcikovo-Nagymaros Project* (Hung. v. Slov.) 1997 I.C.J. 197 (Sept. 25), ¶ 7; *Id.* (separate Opinion of Weeramantry, J.) ¶¶ 88-119; see also Eyal Benvenisti, *Asian Traditions and Contemporary International Law on the Management of Natural Resources*, 7 CHINESE J. INT'L L. 273, 277 (2008).

196. See PRISCOLI & WOLF, *supra* note 20, at 3 (defining subsidiarity and discussing how it informs cross-jurisdictional cooperation).

197. See Rosalyn Higgins, *The ICJ, The ECJ, and the Integrity of International Law*, 52 INT'L & COMP. L.Q. 1, 12-15 (2003) (discussing integration in the context of the international judiciary).

integrating it with other IDR methods.¹⁹⁸ Judicial settlement and arbitration have different institutional and procedural structures from mediation, conciliation, and facilitation. Integrating these methods requires a more nuanced appreciation for the subcomponents of each and how they can be combined to achieve superior results.

One benefit of integration is the complementary effects achieved by combining rights-based and interests-based processes.¹⁹⁹ Another benefit is that integrated approaches can maximize stakeholder participation by incorporating traditionally excluded parties (nonstate actors) into the process. International judicial forums are not well suited to resolve multiparty complex disputes. But mediation lacks a powerful and authoritative framework for compelling participation and enforcing agreed-upon resolutions. The answer is not to exalt one flawed process over another but rather to integrate them into a mutually reinforcing approach. Integrated approaches enjoy the flexibility to consider a broad range of extra-legal issues deemed inappropriate for a court.²⁰⁰ Thus, combining subcomponents of different IDR processes can result in new and more effective ways to resolve disputes.²⁰¹

C. Case Studies

The following three cases studies illustrate examples of

198. For a definition and description of integrating IDR methods, see Anna Spain, *Integration Matters: Rethinking the Architecture of International Dispute Resolution*, 32 U. PA. J. INT'L L. 1 (2010).

199. See Christine Chinkin, *Alternative Dispute Resolution Under International Law*, in REMEDIES IN INTERNATIONAL LAW 123 (Malcolm Evans ed., 1998) (describing the benefits of integrating non-binding dispute resolution methods (e.g., conciliation) into environmental treaty compliance regimes); Mari Koyano, *Effective Implementation of International Environmental Agreements: Learning Lessons from the Danube Delta Conflict*, in PUBLIC INTEREST RULES OF INTERNATIONAL LAW 259, 285-88 (Teruo Komori & Karel Wellens eds., 2009) (using a case study of the Danube Delta Conflict to illustrate how environmental conflict management and implementation of agreements apply the combination of dispute resolution methods, specifically fact-finding and facilitation).

200. John S. Dryzek & Susan Hunter, *Environmental Mediation for International Problems*, 31 INT'L STUD. Q. 87 (1987) (explaining why mediation is an effective method for dealing with decentralized aspects of the global legal and political order).

201. See, e.g., Surya P. Subedi, *WTO Dispute Settlement Mechanisms as a New Technique for Settling Disputes in International Law*, in INTERNATIONAL LAW AND SETTLEMENT, *supra* note 77, at 173-90 (describing the WTO DSB mechanism as a blend of diplomacy negotiation, mediation, arbitration, and adjudication that is "neither fully judicial nor completely a non-judicial mechanism").

integrated IDR approaches that have successfully resolved international resource disputes. These cases suggest that such approaches are worthy of further study. They are a selection from a comprehensive study of dispute resolution methods applied to 343 international conflicts occurring between 1945 and 2003.²⁰² To mitigate selection bias, cases were selected that met the following three criteria: a) international conflict b) involving a dispute over a natural resource (land, water, mineral)²⁰³ c) in which the case was resolved. International conflicts were defined as those occurring between States and involving actual military hostilities or significant shows of force,²⁰⁴ internationalized civil conflicts with verifiable and significant international aspects,²⁰⁵ militarized disputes within a country that had the potential to threaten wider regional or international peace and security,²⁰⁶ and intense political incidents.²⁰⁷ Of the 343 international conflicts occurring between 1945 and 2003, eleven cases were identified as international resource conflicts, representing 3.2% of the total. Resources were defined as water (rivers, lakes, waterways), minerals (petroleum-based, uranium, other economically valuable ores) or sea (fish, access to waterways, sea-floor/shelf).²⁰⁸

These cases offer a representative sample and do not purport to prove that such approaches will work for all international resource disputes. This study is not comprehensive nor does it discount examples where integrated approaches were unsuccessful. These cases represent a small selection of international conflicts involving natural resources based on the stated restrictions. Additional territorial and boundary disputes involving natural resources are

202. BERCOVITCH & FRETTER, *supra* note 30, at 8.

203. Many disputes over resources are primarily defined as political, territorial, or boundary disputes.

204. BERCOVITCH & FRETTER, *supra* note 30, at 7-8.

205. *Id.* at 7 (defining internationalized civil conflict as a situation where a second state or states become involved in a violent civil conflict through direct invasion or indirect support of a faction within the country).

206. *Id.* at 8 (defining a military dispute as a military standoff between two or more states that may or may not escalate into a war (e.g., Cuban Missile Crisis of 1962; Zambia and Zaire in the early 1980s; United States and Cambodia in the Mayaguez Incident)).

207. *Id.* at 8 (defining political incidents as day-to-day diplomatic disputes that have escalated to a more intense nature observed through political demonstrations, ultimatums, or diplomatic insults that pose a threat to international peace and security).

208. *Id.* at 345-69. Resource disputes were identified from the total disputes by selecting keywords "water," "oil" or "resource" in the Index.

not catalogued as resource disputes. The study also did not catalog all types of natural resources—for example, air or agriculture. The cases selected for presentation in this Article are geographically restrictive so inferences should not be attributed to the region or cultures therein.

1. *Mali-Burkina Faso dispute.*

The first example, *In the Case Concerning Mali-Burkina Faso Border Dispute* involving Mali and Burkina Faso (Upper Volta under British colonial rule), illustrates how the mixture of judicial settlement, facilitation and mediation led to successful resolution of the conflict and the underlying water dispute.²⁰⁹

On December 14, 1974, Malian armed forces attacked the armed forces of Upper Volta (now Burkina Faso) leading to intensified military operations on both sides.²¹⁰ The initial attack was the result of underlying tensions that existed in the region over a chain of pools sourced by the Beli River. These pools, located along the border region between the two nations, are the only source of fresh water in the region. Complicating the affair was an ongoing dispute about the boundary demarcation created by the French during colonialism.²¹¹ Ivory Coast, Senegal and Guinea initiated mediation between the parties. The parties did not reach an agreement. The President of the Organization of African Unity (OAU) established a mediation commission to secure the disputed territory and oversee troop withdrawal. On June 18, 1975 the parties reached an agreement through mediation by the presidents of the commission and the OAU. The mediation agreement recommended an independent demarcation of the frontier zone.²¹²

Additional attempts to settle the dispute through negotiation and mediation failed, leading to renewed tensions a decade later. Lack of clarity over the border was a factor leading to the armed conflict. The parties referred the matter, *In the Case Concerning Mali-Burkina Faso Border Dispute*, to the ICJ. While the case was pending, Burkina Faso sent troops and alleged census takers into

209. *Id.* at 77-78 and 92-93.

210. *Id.* at 78.

211. *Id.* at 92-93. Mali considered the area to be geographically and ethnically a part of Mali. Burkina Faso contested this on the grounds that the area was demarcated as belonging in their territory by the French colonial authorities.

212. *Id.* at 78.

four villages in the disputed Agacher Strip border region.²¹³ Interpreting the move as an act of aggression, Mali responded in kind, sending armed forces to the region. War broke out on December 25, 1985 and air attacks and ground battles took place for five days. At least 400 people were killed. The group Non-Aggression and Defense Aid (NADA) facilitated an agreement leading to a cease-fire and troop withdrawal. NADA members continued mediation into January 1986. Meanwhile, the parties awaited the ICJ's decision. In order to fully determine the border area, the ICJ established a commission.²¹⁴ The commission's findings were included in the final judgment of January 18, 1986, which granted the Beli region/Agacher Strip²¹⁵ to Burkina Faso and the village of Dioulouma and associated farming hamlets (approximately 40% of the disputed area)²¹⁶ to Mali.²¹⁷

President Sankara of Burkina Faso acknowledged that dialogue was a superior recourse to war for resolving the dispute and stated his satisfaction with the commission's decision and his nation's intent to honor it.²¹⁸ The reaction from Mali underscored the apparent legitimacy of the legal process through the ICJ, while acknowledging the need for ongoing cooperation in the region to address the water issues.

This case study illustrates an example of interstate armed conflict driven, in part, by an underlying resource dispute. The resource aspect of the dispute (access and use of water) was resolved on the legal basis of territorial ownership. Resolution relied on the clear demarcation of the border between the two disputing states as well as continued cooperation to manage the water resource. This case also demonstrates the complexity of interstate resource disputes and highlights the need for dispute resolution methods that can address legal and environmental issues.

213. Xiong Zhongqi, *Roundup: Peaceful Settlement of Mali-Burkinabe Border Dispute—Good Omen for Africa*, XINHUA GENERAL OVERSEAS NEWS SERVICE, Nairobi, Dec. 28, 1986.

214. *Frontier Dispute (Burk. Faso v. Mali)*, 1986 I.C.J. 554 (Dec. 22).

215. Zhongqi, *supra* note 213 (stating that, according to local knowledge, the Agacher Strip is believed to be rich in mineral resources, notably uranium and natural gas).

216. *Id.*

217. *Malian and Burkinabe Statement on ICJ Ruling on Border Dispute*, BBC, Dec. 22, 1986 (text of statements made by Thomas Sankara, President, Burkina Faso).

218. *Id.*

2. *Cameroon-Nigeria incident*.²¹⁹

The *Cameroon-Nigeria Incident* illustrates how the mixture of judicial settlement and facilitation led to the successful resolution of interstate armed conflict involving marine and oil resources. In 1994, conflict broke out between Cameroon and Nigeria over a border dispute over the Bakassi peninsula that also involved fishing rights and claims to offshore oil fields in the Gulf of Guinea.²²⁰ There were earlier border disputes in 1961 and 1981 that led to armed conflicts, which eventually ended through mediation by President Daniel Moi of Kenya after negotiations failed. In this incident, Cameroon agreed to compensate the families of Nigerian soldiers killed in the fighting and both parties agreed to establish an international arbitration panel to pursue border delimitation.²²¹

Despite these efforts, the fighting in 1994 continued intermittently until 2000 when leaders from both countries met to discuss peaceful resolution options. When direct negotiations between the parties failed, they agreed to pursue recourse through judicial settlement at the ICJ.²²² President Biya of Cameroon pledged to abide by the ICJ's ruling and, in anticipation of the decision, said "[l]et the law be stated."²²³ In the ICJ's October 2002 decision, the Court found that Cameroon had sovereignty over parts of the disputed area and delineated the undefined parts of the border.²²⁴ Then, a commission with representatives from Cameroon, Nigeria, and the United States was set up to facilitate the implementation of the ruling and Nigeria's release of thirty-two villages to Cameroon.²²⁵ UN Secretary-General Kofi Annan was instrumental in supporting the peace process.²²⁶ Director-General of the National Boundary Commission Alhaji Dahiru Bobbo said " [t]he boundary is

219. BERCOVITCH & FRETTER, *supra* note 30, at 85.

220. Thomas Stauffer, *West Africans Skirmish—Over Oil?*, CHRISTIAN SCI. MONITOR, Mar. 22, 1994, at 1.

221. BERCOVITCH & FRETTER, *supra* note 30, at 85.

222. *Bakassi Talks*, LLOYD'S LIST, June 15, 1994, at 12.

223. *Cameroon Calmly Awaits Verdict on Bakassi*, PANAFRICAN NEWS AGENCY, Oct. 10, 2002.

224. Land and Maritime Boundary between Cameroon and Nigeria, 2002 I.C.J. 303 (Oct. 10); *see also* Lisa Schlein, *Nigeria-Cameroon Dispute*, FED. INFO. & NEWS DISPATCH, Jan. 31, 2004.

225. Land and Maritime Boundary between Cameroon and Nigeria, 2002 I.C.J. 303 (Oct. 10).

226. *Id.*

well-defined now. There is no ambiguity; and no gendarmes should come and harass people there.”²²⁷

In this case, the combination of adjudication by the ICJ, facilitation by the commission, and the political support of the UN were all components of a successful process that led to resolution of the resource dispute and the armed conflict.

3. *The Buraymi Oasis resource dispute*²²⁸

The *Buraymi Oasis Resource Dispute* began when Saudi Arabia and Oman both sought sovereignty and use of a border region containing a freshwater oasis and land with potential oil reserves. The disputed area had remained undemarcated since World War I. In the 1940s, Oman began oil exploration in the area and Saudi Arabia subsequently claimed sovereignty over it. Negotiations between the two governments from 1949 to 1952 did not resolve the dispute. Saudi Arabia sent a small military force to the area in August 1952 and Oman responded in kind. Armed conflict was avoided when the United States Ambassador to Saudi Arabia intervened and a standstill agreement was reached on October 26, 1952. Continued aggression by both sides caused fatalities and led to occupation by Oman and the United Kingdom. An attempt to arbitrate the dispute between 1954-55 failed, despite pressure from the Arab League, when both parties withdrew from the process. Negotiations remained ongoing. In 1959, the UN Secretary-General engaged the parties in mediation, which deescalated tensions and led the way for renewed diplomatic relations in 1963. Military conflict ceased. The dispute remained ongoing until a settlement agreement was reached in 1975 granting Oman sovereignty over the area while apportioning land with potential oil reserves and sea access to Saudi Arabia.²²⁹

Unlike the other two examples, adjudication was not employed by the parties to reach resolution in this case. Instead, resolution was achieved through an integrated IDR approach that utilized negotiation and mediation. Mediation by the UN Secretary-General

227. Abdullahi Tasiu Abubakar, *World Court Ruling: Cameroun Cedex Villages to Nigeria*, DAILY TRUST, Mar. 29, 2004, available at <http://allafrica.com/stories/200403290514.html>.

228. BERCOVITCH & FRETTER, *supra* note 30, at 268-69.

229. *Id.*

was helpful in deescalating tensions and ultimately allowed the resource dispute to be resolved through direct negotiations by the parties. This case illustrates the importance of recognizing that integrated IDR methods can achieve success even when they do not include adjudication.

D. Implications

Given the growing global demand for natural resources and the reduced supply, understanding how to address resource disputes effectively is vital.²³⁰ These cases illustrate that resolving international resource disputes is a complex endeavor, in part, because of the interconnected nature of disputes and conflict. An important underlying cause of the disputes in these examples was the use and ownership of natural resources. Adjudication's contribution to resolving these cases was to clarify facts and decide matters of law. Resources were allocated on the basis of territorial ownership and sovereignty. Although this approach is valuable when addressing stationary resources that can be owned as a function of territory, such as lakes and land, it proves less effective at addressing transboundary resources that cannot be easily owned, such as air and water. As such disputes increase and in cases where limited resources must be shared between nations, following an allocation approach based on sovereignty will not be sufficient. Furthermore, because the nature of such natural resources is dynamic, implementing court orders that are static may be frustrated by changing circumstances.²³¹

These case studies also illustrate how integrating adjudication with facilitation or mediation can address the management and use of the resources. Together, each process complements the other in a manner that promotes resolution. The ICJ has said that "the judicial settlement of international disputes, with a view to which the Court has been established, is simply an alternative to the direct and friendly settlement of such disputes between the Parties . . . ; consequently it is for the Court to facilitate, so far as is compatible with its Statute, such direct and friendly settlement."²³² This

230. ROMANO, *supra* note 8, at xliii (arguing that environmental problems are increasingly the source of threats to international peace and security).

231. BRYNER, *supra* note 188, at 96-97.

232. See *Aerial Incident of 10 August 1999 (Pak. v. India)*, 1999 I.C.J. 119, ¶ 52 (June 21).

suggests that one role international courts and tribunals can serve in the future is to coordinate, not merely encourage, the use of additional forms of dispute resolution.²³³

VI. CHALLENGES AND CONSEQUENCES

The international community cannot rely solely on adjudication to resolve complex disputes that will arise in an era of climate change. The obstacles to effective adjudication make other methods of IDR worth exploring. This Article has suggested that integrating IDR approaches offers one alternative for resolving complex, multi-issue and multi-stakeholder cases. Whether through integration or through other means, developing adequate dispute resolution capacity is central to international law's ability to safeguard global peace and security. However, as this section explores, departing from the adjudication-centric model of international dispute resolution challenges the traditional foundations of international law in the following ways.

A. *Sovereignty and the State-Centric System*

The doctrine of state sovereignty has played an important role in the development of international dispute resolution. Sovereignty sets states up as the supreme actors in a hierarchical international legal system. Sovereignty allows states to decide when and where they choose to pursue dispute resolution.²³⁴ Individuals are treated

233. See, e.g., *Territorial and Maritime Dispute Between Nicaragua and Honduras in the Caribbean*, 2007 I.C.J. 120, 108 (Oct. 8) (where the Court found that "the parties must negotiate in good faith with a view to agreeing on the course of the delimitation line of that portion of the territorial sea located between the endpoint of the land boundary . . . and the starting-point of the land boundary . . ."); *Aerial Incident of 10 Aug. 1999 (Pak. v. India)*, 1999 I.C.J. 119, ¶ 52 (June 21) (noting that "the judicial settlement of international disputes, with a view to which the Court has been established, is simply an alternative to the direct and friendly settlement of such disputes between the Parties . . . ; consequently it is for the Court to facilitate, so far as is compatible with its Statute, such direct and friendly settlement."); *Dispute Regarding Navigational and Related Rights (Costa Rica v. Nicar.)* 2009 I.C.J. 133 (July 13) (where the Court, in rendering its decision, considered the interpretation of a key phrase "con objectos" by referring to an earlier treaty as well as an ungratified agreement. This may indicate the Court's willingness to give deference to the parties' intent as determined by earlier negotiations and consultations.).

234. "It is well established in international law that no State can, without its consent, be compelled to submit its disputes with other States either to mediation or to arbitration, or to any other kind of pacific settlement." *Status of the Eastern Carelia, Advisory Opinion*, 1923 P.C.I.J. (ser. B) No. 5, ¶ 33 (July 23).

as objects under the law, not subjects entitled to enforce their own rights. As Lauterpacht stated “[a] wrong done to the individual is a wrong done to his State.”²³⁵ However, a state-centric international legal system has negative implications for resolving international disputes. Under this model, nonstate actors have no standing to contest a state’s action or territory,²³⁶ and have limited ability to enforce their rights in international dispute resolution forums.²³⁷

The nature of international resource disputes demands a different approach to IDR. Specifically, effective IDR requires the inclusion of all relevant stakeholders in the process.²³⁸ Disputes over resources reach to the core of human survival, invoking the rights of individuals not just the nations that purport to represent them. Therefore, assuming that states always represent individuals or public interests is not appropriate.²³⁹ Nonstate actors need to have a more prominent role in resolving disputes they are involved in, particularly as the nature of international conflict is increasingly shifting from the interstate to the intrastate context.²⁴⁰ As individuals demand the right to enforce their rights and resolve their own disputes, the IDR system needs to find ways to accommodate this.²⁴¹

235. LAUTERPACHT, *supra* note 71, at 154.

236. DAVID HELD, *THE CHANGING STRUCTURE OF INTERNATIONAL LAW* 1-2 (2004) (arguing that non-state actors thus often resorted to violent means to establish “effective control” over the area of territory if they wanted to make a case for international recognition).

237. CRAWFORD, *supra* note 92, at 35.

238. Kalas, *supra* note 78, at 192.

239. Jonas Ebbesson, *Public Participation*, in *THE OXFORD HANDBOOK OF INTERNATIONAL ENVIRONMENTAL LAW* 681, 682-85 (Daniel Bodansky, Jutta Brunnee, & Ellen Hey eds., 2007) (discussing the development of international norms regarding public participation for environmental matters in international law. “Governments have lost the exclusive mandate . . . to represent the public . . .”).

240. SARKEES & WAYMAN, *supra* note 34, at 6, 562-66 fig. 7.6 (2010 Correlates of War Project study, which categorizes and measures 655 armed conflicts between 1816 and 2007 resulting in at least 1000 deaths found that inter-state wars have been declining since WWII, while intra-state wars have increased, particularly in the decade following the Cold War); J. Joseph Hewitt, *Trends in Global Conflict, 1946-2007*, in *PEACE AND CONFLICT* 2008 21 (J. Joseph Hewitt, Jonathan Wilkenfeld, & Ted Robert Gurr eds., 2010) (finding a negative correlation between extra-state and intra-state war onsets and noting that as of early 2008 there were 26 active armed conflicts in the world.); *see also* BERCOVITCH & FRETTER, *supra* note 30, at 4-5 (discussing international conflicts occurring between 1945 and 2003).

241. For analysis of the territorial nature of subjects and on how to conceive of political communities engaged in decision-making and other democratic ventures, see Samantha Besson, *Deliberative Democracy in the European Union*, in *DELIBERATIVE DEMOCRACY AND ITS DISCONTENTS* 181 (Samantha Besson et al. eds., 2006).

Opening the IDR system to allow for appropriate nonstate actor participation and to promote non-judicial forms of IDR alongside adjudication is a positive development for international dispute resolution and, ultimately, for international law. However, there is a tension between maintaining a state-centric system that provides adjudication primarily to States and the growing need to provide an effective IDR system for all.²⁴² Maximizing the participation of nonstate actors presents a challenge for international courts. As this Article argues, adjudication is ill equipped to address nonstate actors and extra-legal issues. Courts and tribunals either do not provide for nonstate actor participation or strictly limit the type and role. Non-judicial forms of IDR, especially mediation and facilitation, generally avoid this limitation because they are not subject to authority granted through jurisdiction or other procedural constraints.

Moving beyond adjudication also raises concerns about fragmentation, which is already an issue for international courts and tribunals.²⁴³ For example, in the *Tadic* case, the International Criminal Tribunal for the Former Yugoslavia departed from the earlier standard of effective control used by the ICJ in the *Case Concerning Military and Paramilitary Activities in and Against Nicaragua*.²⁴⁴ If multiple courts may exert jurisdiction over the same subjects or issues, and they issue findings that are inconsistent with each other, this could fragment international legal jurisprudence.²⁴⁵ Extending the international dispute resolution model beyond adjudication may exacerbate concerns about fragmentation and

242. See STEPHEN BELL & ANDREW HINDMOOR, *RETHINKING GOVERNANCE: THE CENTRALITY OF THE STATE IN MODERN SOCIETY* 1-3 (2009) (arguing that state-centric approaches are desirable because they are necessary for and strengthen governance).

243. See *Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law*, *Rep. of the Int'l L. Comm'n*, U.N. Doc. A/CN.4/L.682 (Aug. 11, 2006); Y. SHANY, *THE COMPETING JURISDICTIONS OF INTERNATIONAL COURTS AND TRIBUNALS* (2003); Vaughn Lowe, *Overlapping Jurisdiction in International Tribunals*, 20 AUSTL. Y.B. INT'L L. 191 (1999); Tim Stephens, *Multiple International Courts and the Fragmentation of International Environmental Law*, 25 AUSTL. Y.B. INT'L L. 227 (2006).

244. Higgins, *supra* note 197, at 19.

245. *Id.* at 18 (noting (but disagreeing with) other findings of conflicting international jurisprudence in: *Loizidou v. Turkey*, 20 Eur. H.R. Rep., ¶¶ 65-89 (1995), a European Court of Human Rights case in which the Court and the I.C.J. differed on a question regarding treaty reservations and *Southern Bluefin Tuna* (Australia & New Zealand v. Japan), 1999 ITLOS 3-4, ITS cases in which an arbitral tribunal revoked earlier provisional measures granted by the Tribunal).

make developing a coherent IDR system more challenging.

B. States, the International Community, and the Scope of International Law

Resolving international resource disputes in an era of climate change requires reconceptualizing the scope of international law. While the foundations of the international legal system are interstate, the future of international law lies in its ability to serve a broader collection of global stakeholders. As nations and communities strive to manage scarce resources, traditional notions of property, territory, and sovereignty will be questioned. Efforts to protect natural resources and the environment under international law will need to follow a guiding principle of collectivity. James Crawford describes this as having a “responsibility to the international community as a whole.”²⁴⁶ Founded in Christian and natural law, this concept recognizes international law’s function as a protector and enforcer of collective rights and interests.

The principle of collectivity is in tension with an international legal system that prioritizes the interests of states. In many ways this is a tension about whom the system should serve, especially when the state’s priorities clash with the public’s.²⁴⁷ This tension is evident in definitive and ambiguous examples: instances where international law limits powerful states in protection of collective interests and cases where the international legal system prioritizes state interests.²⁴⁸

Climate change demands reconsidering what is at stake. Solving

246. CRAWFORD, *supra* note 92, at 341.

247. See generally Rudiger Wolfrum, *Solidarity Amongst States: An Emerging Structural Principle of International Law*, 49 INDIAN J. INT’L L. 8 (2009) (providing a historical overview on the concept of solidarity in international law).

248. See Jose Alvarez, *Contemporary International Law: An “Empire of Law” or the “Law of Empire,”* 24 AM. U. INT’L L. REV. 811 (2009) (describing the shift in international law from a system based on the coexistence of nations to one of a new “empire” defined as a collective order that moves beyond statehood); Marie-Claire Cordonier Segger, *The Role of International Forums in the Advancement of Sustainable Development*, 10 SUSTAINABLE DEV. L. & POL’Y. 1 (2009) (discussing the collective nature of international law in sustainable development). But see PHILLIPE SANDS, *LAWLESS WORLD* (2005); Pierre-Marie Dupuy, *Some Reflections on Contemporary International Law and the Appeal to Universal Values: A Response to Martti Koskenniemi*, 16 EUR. J. INT’L L. 131 (2005) (arguing that national interests trump longer term international objectives because powerful nations maneuver against majority aims as demonstrated by the tensions between U.S. unilateralism and E.U. multilateralism, particularly pertaining to matters of terrorism during the past decade).

problems that arise over natural resources in the international sphere requires rethinking the distinction between public and private cases. By their nature, resource disputes implicate public interests,²⁴⁹ which demands broader participation in problem-solving processes.²⁵⁰ As *Trail Smelter* and other cases illustrate, international law has largely treated natural resource problems as matters to be dealt with by and under the authority of a state.²⁵¹ If international law continues to perpetuate the inaccurate notion that the state protects its internal subjects, how will international courts and tribunals address states' failures to do so? What will happen if adjudication cannot provide adequate or speedy remedies to problems of human suffering? As IDR evolves to address important questions such as these, it will necessarily influence notions about the role and scope of international law.

VII. CONCLUSION

In an era of climate change, nations and individuals will face difficult decisions about how to respond to a changing environment and a world where there is not enough water, food or oil. Will the rule of law prevail or will nations take up arms to protect and to acquire limited resources? Such choices can lead to unprecedented global cooperation or to war. Achieving cooperation requires an international legal system capable of overriding the specialized political interests of individual nations in order to protect public interests. For the sake of international solutions, States may have to submit national interests to the interests of the global public.

249. For discussion of this topic in the environmental security discourse, see SIMON DALBY, *ENVIRONMENTAL SECURITY* 183 (2002).

250. Neil A. Craik, *Recalcitrant Reality and Chosen Ideals: The Public Function of Dispute Settlement in International Environmental Law*, 10 GEO. J. INT'L ENVTL. L. REV. 551 (1998) (discussing the need for dispute resolution mechanisms that are open to diverse stakeholders, public in nature, and transparent).

251. *Trail Smelter (U.S. v. Can.)*, 3 REPS. INT'L ARB. AWARDS 1905 (Perm. Ct. Arb. 1938 & 1941), available at http://untreaty.un.org/cod/riaa/cases/vol_III/1905-1982.pdf (weighing Canada's right to smelt ore in its territory against the U.S. right to harvest apples and not be subject to damaging smoke from Canada, raising important questions about the treatment of harms caused by private as opposed to public actors); see also John H. Knox, *The Flawed Trail Smelter Procedure: The Wrong Tribunal, the Wrong Parties, and the Wrong Law*, in *TRANSBOUNDARY HARM IN INTERNATIONAL LAW* 66 (Rebecca M. Bratspies & Russell A. Miller eds., 2006); Austen L. Parrish, *Sovereignty's Continuing Importance: Traces of Trail Smelter in the International Law Governing Hazardous Waste Transport*, in *TRANSBOUNDARY HARM IN INTERNATIONAL LAW* 181, 183-86 (Rebecca M. Bratspies & Russell A. Miller eds., 2006).

Preventing war requires an international legal system capable of administering effective means for resolving international disputes.

This Article has presented the limitations of adjudication as a means for resolving international resource disputes. Specifically, adjudication is hindered by the lack of adequate sources of international law pertaining to natural resources and the limitations inherent in the process of adjudication itself. If adjudication is going to play a constructive role in promoting world peace in an era of climate change, it must evolve to allow for increased participation and treatment of extra-legal issues. This Article has suggested that one way to achieve this is to combine adjudication with non-judicial forms of IDR in an integrated manner. When we recognize the benefits of mediation and facilitation, we can incorporate them in ways that complement the existing international legal system. By increasing access to nonstate actors and addressing extra-legal issues, adjudication contributes to an effective international dispute resolution system. This, in turn, strengthens international law's role in contributing to global peace and security.