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THE STATUS OF A RULE OF CAPTURE UNDER INTERNATIONAL LAW OF THE SEA WITH REGARD TO OFFSHORE OIL AND GAS RESOURCE RELATED ACTIVITIES

*Youri van Logchem**

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INTRODUCTION

Offshore oil and gas resources can be located in two different types of maritime areas subject to state jurisdiction: first, those that are under the clear and undisputed jurisdiction of one or more coastal States; and, second, those where there is no established or agreed maritime boundary that divides the jurisdiction of two or more coastal States, i.e., maritime areas of overlapping claims or disputed maritime areas.¹ Although in principle these two types of maritime areas raise different legal questions, a common legal issue that may arise in these otherwise distinct contexts is the extent to which a State, or petroleum companies pursuant to the approval of a State, can take unilateral (i.e., without the consent of another State) acts in relation to oil and gas resources in either of these types of areas.

Every now and then, it has been assumed that the operational rule that is applicable when it comes to accessing these fields in both situations—that is, when oil and gas fields are located in maritime areas of overlapping claims and when they straddle an established maritime boundary—is the *rule of capture*.² Preliminarily, the rule of capture can be defined as follows: one State is allowed to start drilling and exploiting a shared oil or gas reservoir without the consent of another State.³ The application of the rule of capture has undergone two phases of changes in sphere of operation. First, although it developed in the context of oil and gas operations on land, its scope was subsequently enlarged so as to include the seas and oceans.⁴ Second, in the offshore context, whereas it

1. See G.H. Blake & R.E. Swarbrick, *Hydrocarbons and International Boundaries: A Global Overview*, in BOUNDARIES AND ENERGY: PROBLEMS AND PROSPECTS 3, 3 (Gerald Blake et al. eds., 1998) [hereinafter BOUNDARIES AND ENERGY].

2. See, e.g., Emmanuel Voyiakis, *Shared Oil and Gas Resources*, in OIL AND GAS LAW IN KAZAKHSTAN: NATIONAL AND INTERNATIONAL PERSPECTIVES 77, 77–78 (Ilias Bantekas et al. eds., 2004).

3. See, e.g., Ian Townsend-Gault, *Rationales for Zones of Co-operation*, in BEYOND TERRITORIAL DISPUTES IN THE SOUTH CHINA SEA 114, 121 (Robert Beckman et al. eds., 2013) [hereinafter BEYOND TERRITORIAL DISPUTES]; Dominic Roughton, *The Rights (and Wrongs) of Capture: International Law and the Implications of the Guyana/Suriname Arbitration*, 26 J. ENERGY & NAT. RESOURCES L. 374, 382–83 (2008).

4. See, e.g., Masahiro Miyoshi, *The Basic Concept of Joint Development of Hydrocarbon Resources on the Continental Shelf*, 3 INT'L J. ESTUARINE & COASTAL L. 1, 5–6 (1988).

has been traditionally largely reserved for situations where an oil and gas field straddles a maritime boundary, its application has been widened by some authors so as to encompass maritime areas of overlapping claims and any oil and gas resources that may be located in such areas.⁵ Illustrating the perceived primacy of the rule of capture in both of the aforementioned situations is the position taken by Bundy, who argues that at sea “the exploitation of international oil and gas reserves is still based largely on the [rule] of capture.”⁶ The effect of the rule of capture is that States are allowed to take as much of the available oil and gas resources as possible, which accords “well with the spirit of *laissez faire*.”⁷

Unregulated and unconstrained actions conducted by States, regarding the development of oil and gas resources located in maritime areas where either a boundary has been established or where it is absent, can be detrimental in a number of ways.⁸ Inefficient and competitive drilling are two associated negatives that are accepted under the rule of capture;⁹ its defining characteristics will be further elaborated on in Part I.

As mentioned above, the precise issues brought out by the scenarios where an oil and gas field straddles an established maritime boundary or where a particular field is located within a maritime area that is subject to the overlapping claims of at least two coastal States are, to a certain extent, different.¹⁰ In this contribution, emphasis will be placed on oil and gas fields that are located in the exclusive economic zone (EEZ) and

5. See, e.g., Roughton, *supra* note 3, at 374–75.

6. See Rodman R. Bundy, *Natural Resource Development (Oil and Gas) and Boundary Disputes*, in *THE PEACEFUL MANAGEMENT OF TRANSBOUNDARY RESOURCES* 23, 24 (Gerald H. Blake et al. eds., 1995) [hereinafter *THE PEACEFUL MANAGEMENT*].

7. Ian Townsend-Gault, *Maritime Cooperation in a Functional Perspective*, in *MARITIME ENERGY RESOURCES IN ASIA: LEGAL REGIMES AND COOPERATION* 7, 16 (Clive Schofield ed., 2012).

8. See Miyoshi, *supra* note 4, at 5–6; Peter D. Cameron, *The Rules of Engagement: Developing Cross-Border Petroleum Deposits in the North Sea and the Caribbean*, 55 *INT’L & COMP. L. Q.* 559, 569–70 (2006). See generally Joseph W. Morris, *The North Sea Continental Shelf: Oil and Gas Legal Problems*, 2 *INT’L L.* 191, 206 (1968).

9. See Danielle Beggs & John Stockdale, *Unitisation and Unitisation Agreements*, in *OIL AND GAS: A PRACTICAL HANDBOOK* 81, 81 (Geoffrey Picton-Turbervill ed., 2d ed. 2014); Charles Robson, *Transboundary Petroleum Reservoirs: Legal Issues and Solutions*, in *THE PEACEFUL MANAGEMENT*, *supra* note 6, at 3, 5–6.

10. Blake & Swarbrick, *supra* note 1, at 3.

the continental shelf, which are either delimited or undelimited;¹¹ the specifics of these two maritime zones will be elaborated on in Part II.

The Article will begin by addressing the key issue of where there is a resolved maritime boundary between the coasts of States, but an oil and gas field straddles this construed boundary. Due to the fugitive character of oil and gas resources—combined with the fact that they are kept in place under great pressure in the strata of the continental shelf—when drilling into a reservoir, the oil and gas reserves contained therein “will migrate to the point(s) of perforation.”¹² Given these physical attributes of oil and gas, and that they will not remain stationary in one place if a reservoir is pierced, the commencement by State A with the development on its own side of the boundary line might result in the siphoning off of resources from the other side—the side of State B. The key question that follows is: from the perspective of international law, is one State allowed to engage in operations concerning a reservoir that straddles a maritime boundary without the consent of the State from whose side the resources are likely to migrate from?

There are also situations in which oil and gas resources are located in disputed maritime areas: that is, where more than one State has a legitimate claim to the maritime area, but no determination has been made as to where the final maritime boundary between the coasts of claimant States lies. In practice, it is fairly common that, despite the lack of a maritime boundary, activities will commence in connection with oil and gas under the approval of only one claimant.¹³ Frequently, unilateral acts connected to the development of these resources, whether it is seismic work, drilling, or exploitation, engender difficulties between

11. For an analysis of issues brought out by overlapping territorial seas, see David H. Anderson & Youri van Logchem, *Rights and Obligations in Areas of Overlapping Maritime Claims*, in *THE SOUTH CHINA SEA DISPUTES AND LAW OF THE SEA* 192, 195–97 (S. Jayakumar et al. eds., 2014).

12. Clive H. Schofield & Ian Townsend-Gault, *Choppy Waters Ahead in “a Sea of Peace Cooperation and Friendship”?: Slow Progress Towards the Application of Maritime Joint Development to the East China Sea*, 35 *MARINE POL’Y* 25, 29 (2011).

13. For example, in May 2014, China moved an oil rig (*Haiyang Shiyou 981*) into position in an area that is in addition claimed by Vietnam (i.e., off the coast of Triton Island in the Paracel Islands) and commenced with drilling work. See Zhou Fangyin, *Between Assertiveness and Self-Restraint: Understanding China’s South China Sea Policy*, 92 *INT’L AFF.* 869, 884–85 (2016).

States that have overlapping claims over the same maritime area.¹⁴ The extent of the difficulties that may materialize will, however, depend on the given locality and the type of activity concerned. A more general rule of thumb is that the perceived sensitivity of a unilateral act varies with the change to the *status quo* it affects: drilling is, almost inevitably, to stir up controversy, whereas the more modest activity of seismic work might only be problematic between certain compositions of claimant States. Central to where there is no determined continental shelf or EEZ boundary is the following question: can States that have disputed EEZ or continental shelf areas begin with activities concerning oil and gas resources in the disputed area prior to the final determination of a maritime boundary or in the absence of agreed means of cooperation? This question can be split into three sub-questions, according to the specific type of activity undertaken in relation to oil and gas resources. First, is one claimant State allowed to capture information on the composition of the seabed, and the amount of mineral resources contained therein, through conducting seismic work? Second, can one claimant freely commence with drilling into the continental shelf, capture a core sample therefrom, and use the information it provides to its sole benefit? Third—this is how the rule of capture is more traditionally understood—can one claimant of a disputed area start with the actual development of an oil and gas reservoir without the consent of another claimant State?

This Article will begin clarifying the gist of the rule of capture and its application in two different contexts: on land and at sea.¹⁵ After the modalities of the rule of capture have been laid out, attention will be turned to an explanation of the general contours of the maritime zones of the EEZ and the continental shelf, to which coastal States have entitlements under international law of the sea.¹⁶ Next, the rights that States have over oil and gas resources of the seabed under international law of the sea will be canvassed.¹⁷ Often, claimed entitlements of States

14. See Craig Snyder, *The Implications of Hydrocarbon Development in the South China Sea*, 52 INT'L J. 142, 146 (1996); Youri van Logchem, *The Scope for Unilateralism in Disputed Maritime Areas*, in THE LIMITS OF MARITIME JURISDICTION 175 (Clive H. Schofield et al. eds., 2014) [hereinafter THE LIMITS].

15. See *infra* Part I.

16. See *infra* Part II.

17. See *infra* Part II.A.

to the maritime zones of the EEZs and continental shelves will conflict in localities where the distance between the designated baselines of States is less than 400 nautical miles (nm).¹⁸ Removing this overlap can be achieved by effecting a delimitation of the maritime boundary between the coasts of the relevant States.¹⁹ However, arriving at final delimitation regularly proves a difficult task for States concerned.²⁰ In the absence of delimitation, there will be a coexistence of sets of sovereign rights of two or more claimant coastal States over the same physical marine space.²¹ This co-existence of rights lies at the root of the issue that possible difficulties may transpire, if one claimant decides to act on these rights without another State's approval—this will be discussed in Part II.B.2. Before discussing the issues that arise if oil and gas resources are locked away in a disputed continental shelf, the emphasis will be placed on those cases where the matter of determining a maritime boundary has been disposed of, but where there is an oil and gas reservoir that does not observe the regularities of this maritime boundary; i.e., the resource straddles the boundary.²² A failure to successfully complete final delimitation, with the result that the overlapping claims to EEZs or continental shelves of at least two coastal States will coexist, does not automatically have the effect that claimants will avoid taking acts in relation to a disputed area.²³ Identifying the quantity of oil and gas that is contained therein through conducting seismic work and subsequently taking steps towards their development are every now and then undertaken by only one of the claimant States concerned, without the consent of the other State(s).²⁴ The extent to which international law imposes an obligation to cooperate on claimants regarding unilaterally

18. See *infra* Part II.B.

19. See *infra* Part II.B.1.

20. For instance, 48 rounds of negotiations were conducted between Ireland and the United Kingdom, before they agreed on where the continental shelf boundary lies between their coasts in 1988. See Agreement Between the Government of Ireland and the Government of the United Kingdom Concerning the Delimitation of Areas of the Continental Shelf Between the Two Countries, ITS No. 1/1990 (Gr. Brit-Ir.).

21. Anderson & Van Logchem, *supra* note 11, at 196, 198.

22. See *infra* Part III.

23. See *infra* Part IV.

24. See Daniel J. Dzurek, *Southeast Asian Offshore Oil Disputes*, 11 OCEAN Y.B. 157, 163–64 (1994). For example, in disputed parts of the Natuna Sea, Indonesia has engaged in unilateral seismic work, which drew the protest of Vietnam.

undertaken acts in connection with oil and gas resources in disputed areas will be discussed in Part V. Critical in this analysis is the role of paragraph 3 of Articles 74 and 83 of the United Nations Convention on the Law of the Sea (LOSC, or Convention), which seeks to regulate areas of overlapping EEZs and continental shelves.²⁵ This commonly phrased provision, laying down two different obligations—one to cooperate and the other to prevent certain conduct from commencing—significantly influences the possibility for claimants to unilaterally conduct activities concerning oil and gas resources in disputed maritime areas. The contribution will round off by summarizing the main arguments that have been presented, in order to draw some conclusions as to what status the rule of capture currently enjoys concerning oil and gas related exploitation and exploration activities at sea.²⁶

I. CLARIFYING THE RULE OF CAPTURE

A. The (Traditional) Application of the Rule of Capture on Land

Straddling oil and gas resources, and their fugacious properties, have long been known. Reflecting this are the earliest discussions of the relevant rule and the relevance of a rule of capture on the national level, which go back to the mid-nineteenth century.²⁷ In certain domestic laws, including those of the United Kingdom and United States, the rule of capture has been recognized in the context of oil and gas operations on land.²⁸ In fact, this rule has formed the basis on which the oil and gas industry in the United States has modeled its operations.²⁹ One application of this rule is that despite landowners having property rights to the oil and gas that is located below their land, others may, under certain circumstances, take this oil and gas; that is, if through the lawful drilling of a well on one's own land, oil and gas that is located under

25. United Nations Convention on the Law of the Sea arts. 74, 83, Dec. 10, 1982, 1833 U.N.T.S. 397 [hereinafter LOSC].

26. *See infra* Part VI.

27. *See* Bruce M. Kramer & Owen L. Anderson, *The Rule of Capture – An Oil and Gas Perspective*, 35 ENVTL. L. 899, 899-905 (2005).

28. *Id.* at 906; TERENCE DAINITH, FINDERS KEEPERS? HOW THE LAW OF CAPTURE SHAPED THE WORLD OIL INDUSTRY 8 (2010).

29. DAINITH, *supra* note 28, at 8.

someone else's land is caused to migrate to the former.³⁰ Compensation for this loss cannot be claimed by the owner of the land from where the oil and gas migrated.³¹ The only recourse available is to commence with drilling on one's own land, which may, possibly, result in a remigration of the originally lost oil and gas.³² Landowners, effectively without a legal remedy, are spurred on to engage in competitive and uncontrolled drilling to undo the possible loss of oil and gas that used to be located under one's land.³³ Seemingly, this scheme will inevitably lead to waste of oil and gas resources and their uneconomic development.³⁴

B. The Application of the Rule of Capture at Sea

The rule of capture has been transposed to situations where oil and gas fields are located in disputed maritime areas or where these fields straddle a construed boundary that divides the jurisdictions of coastal States. Applied to the context of a straddling oil and gas field, or a field that is located in a disputed maritime area, the effect of the rule of capture would be that one State is allowed to take any or all of the oil and gas resources; this however heavily affects another State's rights that are attributed to it under the law of the sea.³⁵ In debates about what rules of international law govern the conduct of operations in relation to offshore oil and gas resources that are located in maritime areas under the claimed or established jurisdiction of States, voices have sometimes emerged stating that the guiding and prevailing norm in this context is the rule of

30. See Robert E. Hardwicke, *The Rule of Capture and Its Implications as Applied to Oil and Gas*, 13 TEX. L. REV. 391, 393 (1935); Melissa H. Loja, *Who Owns the Oil that Traverses a Boundary on the Continental Shelf in an Enclosed Sea? Seeking Answers in Natural Law Through Grotius and Selden*, 27 LEIDEN J. INT'L L. 893, 897 (2014).

31. See *Westmoreland & Cambria Nat. Gas Co. v. De Witt*, 18 A. 724, 725 (1889).

32. See Townsend-Gault, *supra* note 3, at 121; Loja, *supra* note 30, at 893, 897–98.

33. See Townsend-Gault, *supra* note 3, at 121; Roughton, *supra* note 3, at 382–84.

34. Robson, *supra* note 9, at 5–6.

35. BRITISH INST. OF INT'L AND COMPARATIVE LAW, 1 JOINT DEVELOPMENT OF OFFSHORE OIL AND GAS 33 (Hazel Fox et al. eds., 1989) [hereinafter 1 JOINT DEVELOPMENT].

capture.³⁶ Although there is no rule in international law that explicitly addresses the status of a rule of capture, nor a direct legitimation that can be invoked for adopting this practice at sea, support for the existence of such a rule has been gathered from how States, arguably, go about in dealing with offshore deposits of oil and gas resources. The assumption concerning the application of the rule of capture as being the predominant one under international law runs as follows: States will be guided in their conduct by the rule of capture as they seek to maximize the production of an oil and gas field.³⁷ This, combined with the fact that certain States will encourage holders of concessions to start drilling—or even to take an oil and gas field located within a disputed area or one that straddles a determined maritime boundary into production—regardless of another State’s objections,³⁸ further signifies the relevance of assessing whether international law supports the (claim of) existence of an international rule of capture that is applicable in such situations. It must be kept in mind that, from the perspective of international law, the oil and gas industry, being a private actor, is not one of the addressees whose behavior international law seeks to directly regulate in these situations.³⁹ There are some examples that might be invoked in support of the rule of capture as the guiding rule that operates at sea in connection with oil and gas resources. One example is the case between Ghana and Côte D’Ivoire, where Ghana undertook preliminary actions necessary to begin producing oil from the disputed maritime area. Before the dispute over the course of the maritime boundary running between their coasts was brought to the International Tribunal for the Law of the

36. George W. Hardy, III, *The Doctrine of Correlative Rights: Origins and Modern Applications*, 35 ANN. INST. ON MIN. L. 167, 169–70 (1992); Bundy, *supra* note 6, at 24.

37. Voyiakis, *supra* note 2, at 77.

38. See, e.g., SELIG S. HARRISON, *SEABED PETROLEUM IN NORTHEAST ASIA: CONFLICT OR COOPERATION?* 11–13 (2005). For example, in 1973, a US petroleum company obtained a concession from South Korea and began drilling two wells in an area of the Yellow Sea that is also claimed by China. *Id.* at 11. This unilateral move was opposed by China. *Id.* at 11–12. Despite China’s objections, South Korea was adamant on that Gulf Oil would honor the terms of the concession and proceed with drilling. *Id.* at 12.

39. See Youri van Logchem, *Submarine Telecommunication Cables in Disputed Maritime Areas*, 45 OCEAN DEV. & INT’L L. 107, 114–15 (2014).

Sea (ITLOS) in order to be resolved,⁴⁰ and thus in the absence of a final definition of the overlapping entitlements of the States concerned, Ghana moved all infrastructure required for the development of oil into place in the maritime area of overlapping claims, possibly to take some of the oil that might ultimately belong to Côte D'Ivoire.⁴¹

Other examples derived from State practice that possibly support the existence of a rule of capture in the context of a maritime area of overlapping claims are that sometimes claimant States will accuse each other of having proceeded to the stage of development without having a final maritime boundary or pursuant to an agreed cooperative modality. Along these lines, the Democratic Republic of the Congo accused Angola of starting with the unilateral production of petroleum resources from the disputed continental shelf, prior to their agreement to bring activities related to these resources under a joint regime.⁴² Further, the existence of a group of gas fields in the East China Sea, whose properties might be such that they straddle a hypothetical equidistance boundary running between the coasts of China and Japan, has led to accusations of the latter that through developmental activities on the Chinese side, oil and gas resources placed on the Japanese side have been abstracted.⁴³ China took the position that, given that the oil and gas fields fall within its side of the equidistance line, there can be no dispute over these activities; in fact, due to their placement, the fields are according to China undoubtedly under its jurisdiction, thereby allowing it to apply its

40. Dispute Concerning Delimitation of the Maritime Boundary Between Ghana and Côte D'Ivoire in the Atlantic Ocean (Ghana/Côte D'Ivoire), Case No. 23, Order of Apr. 25, 2015, https://www.itlos.org/fileadmin/itlos/documents/cases/case_no.23_prov_meas/C23_Order_prov.measures_25.04.2015_orig_Eng.pdf.

41. *Id.* at ¶¶ 76–77, 79.

42. BRITISH INST. OF INT'L & COMPARATIVE LAW, REPORT ON THE OBLIGATIONS OF STATES UNDER ARTICLES 74(3) AND 83(3) OF UNCLOS IN RESPECT OF UNDELIMITED MARITIME AREAS 87–88 (2016), https://www.biicl.org/documents/1192_report_on_the_obligations_of_states_under_articles_743_and_833_of_unclos_in_respect_of_undelimited_maritime_areas.pdf?showdocument=1.

43. See Pieter H.F. Bekker, *Maritime Boundary Disputes Risk Investment in Offshore Energy Projects*, 21 NAT. GAS & ELEC. 10, 10 (2005); Deniz Tas, *Oil and Gas in the East China Sea: Maritime Boundaries, Joint Development and the Rule of Capture*, 2011 INT'L ENERGY L. REV. 48, 50.

national oil and gas policies.⁴⁴ Although recognizing that the oil and gas fields discovered by China are placed on its side of the hypothetical equidistant boundary, Japan has, nonetheless, argued that it is entitled to a share of the oil and gas resources because the geological properties of these fields are such that they physically extend to the Japanese side of the line.⁴⁵

The existence of an international rule of capture in connection with oil and gas that is located in areas where a settled maritime boundary is absent, or where there is a straddling deposit, has been fairly widely disputed.⁴⁶ For instance, Miyoshi has outright dismissed the validity of the rule of capture at sea, arguing that there is no such rule in international law, irrespective of the fact that oil and gas is located in a disputed maritime area or that it straddles a construed boundary.⁴⁷ Ong, after identifying the difference in opinion that exists on the matter, has taken the position that there is “no explicit provision” in international law that shows the primacy of the rule of capture at sea over cooperation sought regarding a shared deposit.⁴⁸

Within areas of overlapping claims, a unilateral progression by a claimant State to the phase of exploitation has a number of effects for the States concerned: first, it is inevitable to affect the other claimant’s inherent rights over the continental shelf that is attributed to it under the law of the sea;⁴⁹ and, second, the move to unilaterally develop an oil and gas field is likely to engender various degrees of dispute between the acting State and the claimant(s) that are faced with the behavior. The latter is difficult to square with the fact that States, as a more general principle of international law, have to abstain from aggravating or

44. Gao Jianjun, *A Note on the 2008 Cooperation Consensus Between China and Japan in the East China Sea*, 40 OCEAN DEV. & INT’L L. 291, 294 (2009).

45. Joint Press Conference, Masahiko Koumura, Minister of Foreign Affairs & Akira Amari, Minister of Econ., Trade & Indus., Japan, Regarding Cooperation Between Japan and China in the East China Sea (June 18, 2008), www.mofa.go.jp/announce/fm_press/2008/6/0618.html.

46. Miyoshi, *supra* note 4, at 18; Int’l Law Ass’n, Int’l Comm. on the Exclusive Econ. Zone, Rep. of the Sixty-Third Conference, at 531 (Aug. 27, 1988).

47. Miyoshi, *supra* note 4, at 6, 18.

48. David M. Ong, *Joint Development of Common Offshore Oil and Gas Deposits: “Mere” State Practice or Customary International Law?*, 93 AM. J. INT’L L. 771, 777 (1999).

49. 1 JOINT DEVELOPMENT, *supra* note 35, at 33.

extending a dispute, a concept which is, arguably, reflected in the negative obligation contained in paragraph 3 of Articles 74 and 83 of the LOSC to not hamper or jeopardize final delimitation.⁵⁰ Activities performed in the stages that precede the taking into production of an oil and gas field—that is, taking a seismic survey or drilling an exploratory well—can themselves amount to disputes between States that have overlapping claims over the same EEZ or continental shelf.

II. OIL AND GAS RESOURCES IN EEZS AND CONTINENTAL SHELVES

Pursuant to the LOSC, coastal States are entitled to extend their claims to sovereignty, sovereign rights, and jurisdiction over different maritime zones that are located at different distances from their coast.⁵¹ Coastal States are entitled to a continental shelf extending to a maximum of 200 nm or beyond in accordance with Article 76 of the Convention; one critical requirement in this respect is that there is a physical continental shelf beyond the 200 nm mark.⁵² The sovereign rights coastal States have over their continental shelf⁵³ are inherent and are ab initio and de jure attached to it.⁵⁴ Activities that facilitate the actual exercise of a State's sovereign rights over oil and gas resources in the continental shelf, both in their discovery as well as factual development, are amongst those that can only be conducted by the coastal State or under its authority.⁵⁵ Drilling into the continental shelf,⁵⁶ or erecting and emplacing other installations and structures that are used in connection with oil and gas related activities, will thus undoubtedly require the

50. Natalie Klein, *Provisional Measures and Provisional Arrangements in Maritime Boundary Disputes*, 21 INT'L J. MARINE & COASTAL L. 423, 458 (2006) (“The concept of non-aggravation is affirmed in paragraph 3 of Articles 74 and 83 . . .”).

51. The further the maritime zone is away from a State's coast, the lesser the amount of authority it has: territorial sea; contiguous zone; EEZ; continental shelf.

52. Dominic Roughton & Colin Trehearne, *The Continental Shelf*, in 1 THE IMLI MANUAL ON INTERNATIONAL LAW: LAW OF THE SEA 137, 156–58 (David Joseph Attard et al. eds., 2014).

53. *See, e.g.*, Continental Shelf (Libya v. Malta), Judgment, 1985 I.C.J. 13, ¶¶ 19–20 (June 3).

54. North Sea Continental Shelf, (Ger./Den; Ger./Neth.), Judgment, 1969 I.C.J. Rep. 3, ¶¶ 19, 39 (Feb. 20); MALCOLM D. EVANS, RELEVANT CIRCUMSTANCES AND MARITIME DELIMITATION 55 (1989).

55. LOSC, *supra* note 25, arts. 60, 80.

56. *Id.* art. 81.

consent of the relevant coastal State. Also, the coastal State is in a position to proclaim and enforce legislation that sees to the use of oil and gas resources. Having sovereign rights over the continental shelf is accompanied by a certain autonomy for the coastal State as to how it wants to utilize any of the resources it contains—if it wishes to utilize them at all.⁵⁷ It can therefore be assumed that there rests no obligation on the relevant coastal State to actually exploit the continental shelf; deferring or abstaining from exploitation are both valid options for States.⁵⁸

Further, coastal States are entitled to establish an EEZ, by proclamation, extending to a maximum of 200 nm.⁵⁹ Most coastal States have claimed an EEZ,⁶⁰ although in certain parts of the world, States (e.g., those having coastal fronts on the Mediterranean Sea)⁶¹ have refrained from claiming one. Coastal States are granted exclusive sovereign rights, as well as a number of jurisdictional rights over both living and nonliving natural resources (e.g., oil and gas) that are found on the seabed within 200 nm, and perhaps beyond that distance, from a State's designated baselines, in addition to those resources that live in the water column.⁶² Rights over the seafloor can thus attach to the coastal State both by virtue of the entitlements they have over an EEZ as well as the continental shelf, either of which provides it with exclusive access to all nonliving resources that are contained therein.⁶³ The legal link that exists between the concepts of the EEZ and continental shelf, which are conterminous, is emphasized in paragraph 3 of Article 56 of the LOSC: in the exercise of EEZ rights concerning the seabed, a State must act in accordance with the provisions of Part VI of the Convention on the continental shelf.

57. *Id.* arts. 60, 80 & 81.

58. SHIGERU ODA, *INTERNATIONAL CONTROL OF SEA RESOURCES* 167 (1989).

59. LOSC, *supra* note 25, art. 57.

60. *See generally* R. R. CHURCHILL & A. V. LOWE, *THE LAW OF THE SEA* app. 1 at 463–71 (3d ed. 1999).

61. *See* Gemma Andreone, *The Legal Regime of Fisheries in the Mediterranean: Some Issues Concerning Italy*, 11 *ITALIAN Y.B. OF INT'L L.* 231, 231–32 (2001).

62. LOSC, *supra* note 25, arts. 56–57.

63. *Id.* art. 77.2 (regarding the continental shelf); *id.* at 56.2 (regarding the exclusive economic zone).

A. Developing Oil and Gas Resources

The right to exploit oil and gas resources is vested in the coastal State by virtue of enjoying sovereign rights over an EEZ and the continental shelf; this enables the coastal State concerned to exploit its oil-containing strata.⁶⁴ The amount of oil and gas resources that are contained in all the continental shelves combined are significant.⁶⁵ An important limitation is that if a maritime boundary has been determined, this boundary forms the outer limit of where the coastal State can engage freely in activities in connection with oil and gas resources.⁶⁶ It is important to note that after the discovery of an oil and gas field, instant production from it is not possible; in fact, production usually will be approximately ten years away.⁶⁷ Beyond attributing to a coastal State a right to develop the oil and gas resources, their factual exploitation from the continental shelf is not further circumscribed in the LOSC.⁶⁸ Testifying to this is that in the Convention there are neither limitations placed on the quantity of hydrocarbon resources a State can extract from its continental shelf, nor are methods prescribed that a coastal State has to use in extracting these resources from a continental shelf.⁶⁹ Along these lines, it can also be observed that the Convention does not contain a provision that is explicitly written with a view to circumscribing the rights and obligations of States in areas of overlapping entitlements regarding hydrocarbons and connected activities, such as the emplacement of installations or other activities that may commence on the continental shelf.⁷⁰ Similarly, the Convention is of limited help if an oil and gas field does not neatly

64. See MALCOLM N. SHAW, *INTERNATIONAL LAW* 583–85 (6th ed. 2008).

65. See Victor Prescott, *Resources of the Continental Margin and International Law*, in *CONTINENTAL SHELF LIMITS: THE SCIENTIFIC AND LEGAL INTERFACE* 64, 75–77 (Peter J. Cook & Chris M. Carleton eds., 2000).

66. See, e.g., Loja, *supra* note 30, at 895–96.

67. Clive Schofield, *What's at Stake in the South China Sea? Geographical and Geopolitical Considerations*, in *BEYOND TERRITORIAL DISPUTES*, *supra* note 3, at 11, 39.

68. Robin R. Churchill, *The 1982 United Nations Convention on the Law of the Sea*, in *THE OXFORD HANDBOOK OF THE LAW OF THE SEA* 24, 29–30 (Donald R. Rothwell et al. eds., 2015).

69. Bundy, *supra* note 6, at 39.

70. Vasco Becker-Weinberg, *Seabed Activities and the Protection and Preservation of the Marine Environment in Disputed Maritime Areas of the Asia-Pacific Region*, 2012 L. OF THE SEA INST. 1, 2, www.law.berkeley.edu/files/Becker-Weinberg-final.pdf.

follow the course of the maritime boundary dividing the jurisdiction of States, but rather is placed in such a way that it can be exploited from either side of the line. Regardless of this, certain broadly formulated provisions in the Convention might be applicable in the two earlier sketched scenarios: that is, when an oil and gas field is either found straddling an established boundary or located in an area that is subject to the overlapping claims of States.

Regularly, oil and gas resources play an important role in disputed maritime areas: there might be proven reservoirs or rumors that parts of the disputed area contain resources; if there is an underlying dispute concerning sovereignty over islands,⁷¹ the connection between oil and gas and delimitation has been assumed to be even more apparent.⁷² Reflecting the importance that States attach to oil and gas resources is the large aggregate of maritime areas where no maritime boundary has been established and where at least one of the reasons inhibiting their final delimitation is the issue of gaining access to natural resources.⁷³ Under international law, States are offered a variety of instruments that enable them to deal with issues involving offshore oil and gas resources, one of which is to make attempts at coming to delimitation.⁷⁴ The presence of resources, real or rumored, often motivates States to take a greater interest in a maritime area of overlapping claims and its delimitation.⁷⁵ Disputed continental shelves have sometimes paralyzed the exploration and exploitation of oil and gas resources that are locked away therein; their presence can create a situation that is less than amendable to diplomatic compromise.⁷⁶ However, new discoveries have sometimes actually had the opposite effect, by expediting an agreement on a final

71. See generally Youri van Logchem, *Exploration and Exploitation of Oil and Gas Resources in Maritime Areas of Overlap Under International Law: The Falklands (Malvinas)*, 28 HAGUE Y.B. INT'L L. 29 (2017).

72. See Loja, *supra* note 30, at 907.

73. John W. Donaldson, *Oil and Water: Assessing the Link between Maritime Boundary Delimitation and Hydrocarbon Resources*, in *THE LIMITS*, *supra* note 14, at 127, 138–40.

74. See *supra* Part II.

75. See JAN KLABBERS, *INTERNATIONAL LAW* 246 (1st ed. 2013).

76. Blake & Swarbrick, *supra* note 1, at 4 (“[E]xploration may be delayed over a considerable area in and around the disputed seabed or territory.”). See also Robson, *supra* note 9, at 3.

maritime boundary.⁷⁷ Mostly, if oil and gas resources are absent, there may be little incentive for coastal States to embark on negotiations on delimiting their overlapping entitlements, since these exercises can be complex, may take a long time and involve considerable costs for the States involved.⁷⁸

B. Overlapping EEZ and Continental Shelf Entitlements

In certain parts of the seas of the world, the expansion of coastal States' maritime jurisdiction lead to conflicting claims over the same maritime area up to 200 nm.⁷⁹ In these situations, the proximity of the respective coasts inevitably resulted in overlapping entitlements of different coastal States to the same EEZ or continental shelf.⁸⁰ Estimates, although there is a significant measure of variation between them, place the number of open maritime boundaries at around 200.⁸¹ Counting exercises of this nature generally go up to the 200 nm limit; hence, any overlapping claims States may have regarding extended continental shelves is omitted from these equations.⁸² Leaving the issue of the extended continental shelf further aside here, attention will be directed at the frequently occurring overlapping claims between coastal States over the same EEZ or continental shelf.

77. See John A. Sullivan, *Attorney: Expect More Maritime Disputes With Deep Offshore E&P*, NAT. GAS WK., Nov. 2, 2009, at 3 (“As more nations find oil and natural gas off their shores, except more disputes over where their territory ends and their neighbor’s begins.”).

78. See Anderson & Van Logchem, *supra* note 11, at 209–10.

79. See CHURCHILL & LOWE, *supra* note 60, at 147–148; Anderson & Van Logchem, *supra* note 11, at 192–195.

80. See Anderson & Van Logchem, *supra* note 11, at 192–195; Clive H. Schofield, *The El Dorado Effect: Reappraising the ‘Oil Factor’ in Maritime Boundary Disputes*, in THE LIMITS, *supra* note 14, at 114–115.

81. See Donaldson, *supra* note 73, at 134; Jan Paulson, *Boundary Disputes into the Twenty-First Century: Why, How . . . and Who?*, 95 AM. SOC’Y INT’L L. PROC. 122, 123 (2001); Tim Martin, *Energy and International Boundaries*, in RESEARCH HANDBOOK ON INTERNATIONAL ENERGY 181, 181 (Kim Talus ed., 2014).

82. Clive Schofield, *Even More Lines in the Sea: Advances in the Spatial Governance of Marine Space*, in OCEAN LAW AND POLICY: 20 YEARS UNDER UNCLOS 387, 399 (Carlos Espósito et al. eds., 2016).

1. *Delimitation*

Distances between the mainland and island coasts of States are often not wide enough for an individual State to be able to claim its full entitlements to the EEZ or continental shelf, without creating an overlap with another State's similar entitlements.⁸³ Negotiations and referring a question over the maritime boundary to arbitral or judicial proceedings are two ways in which outstanding maritime boundary issues, including the issue of delimitation, can be resolved.⁸⁴ However, embarking on either of these routes will require the consent of the States concerned.⁸⁵

Rules governing the delimitation of States' overlapping EEZs and continental shelves are found in the similarly phrased provisions of paragraph 1 of Articles 74 and 83 of the LOSC: these provide that an equitable solution to the delimitation question has to be achieved, based on international law. The contents of this common paragraph 1 have been critically received and a regularly heard criticism is that they are largely devoid of substance.⁸⁶ To a certain extent, its contents have been clarified in the case law of international courts and tribunals, where historically maritime boundary questions have occupied a prominent place; how the courts and tribunals have gone about effecting delimitations is described extensively elsewhere and will therefore be not elaborated on here.⁸⁷

83. See, e.g., Hussein M. Al Baharna, *Legal Implications of Maritime Boundary Disputes (with Special Reference to the Gulf)*, 68 Y.B. OF ISLAMIC & MIDDLE E. L. 68, 70 (1994); Suk Kyoon Kim, *Understanding Maritime Disputes in Northeast Asia: Issues and Nature*, 23 INT'L J. MARINE & COASTAL L. 214, 215 (2008). Maritime areas of overlapping claims exist virtually everywhere in the world. Baharna, *supra*, at 70. A region that has a many outstanding disputed areas is Northeast Asia. Kim, *supra*, at 215.

84. See, e.g., Tullio Treves, *A System for Law of the Sea Dispute Settlement*, in THE LAW OF THE SEA: PROGRESS AND PROSPECTS 417, 417–18 (David Freestone et al. eds., 2006).

85. See David Anderson, *Negotiating Maritime Boundary Agreements: A Personal View*, in MARITIME DELIMITATION 121, 122–23 (Rainer Lagoni & Daniel Vignes eds., 2006).

86. See Malcolm D. Evans, *Maritime Delimitation after Denmark v. Norway: Back to the Future?*, in THE REALITY OF INTERNATIONAL LAW: ESSAYS IN HONOUR OF IAN BROWNLIE 153, 156–57 (Guy S. Goodwin-Gill & Stefan Talmon eds., 1999); Chris Whomersley, *The South China Sea: The Award of the Tribunal in the Case Brought by Philippines against China—A Critique*, 15 CHINESE J. INT'L L. 239, 249 (2016).

87. See generally Shi Jiuyong, *Maritime Delimitation in the Jurisprudence of the International Court of Justice*, 9 CHINESE J. INT'L L. 271 (2010); See generally David H.

Once delimitation of a maritime area that is subject to the overlapping claims of at least two States has been effected—removing the previously existing overlap of sovereign rights—there is a single coastal State that has sovereign rights over living and nonliving resources of the EEZ or continental shelf.⁸⁸ Coming to delimitation has a number of advantages for coastal States.⁸⁹ For example, it prevents controversy or may alleviate previously arisen or continuing conflicts that are created by the absence of a maritime boundary.⁹⁰ After the maritime boundary has been set, it will be clear for the States concerned, as well as the petroleum industry, as to where they may conduct work.⁹¹ However, issues might still arise if acts that have transboundary effects, including seismic work and drilling, commence very close to the final boundary line.⁹² In the absence of delimitation, overlapping maritime boundary claims might have a number of detrimental effects: first, States can experience difficulties in engaging foreign participation from the petroleum industry,⁹³ and, second, commencing with activities concerning oil and gas resources contained within a disputed area can engender varying measures of discord between claimants, ranging from the exchange of diplomatic notes to sending naval vessels to the area in order to protect their own interest and prevent the other State from pursuing activities in the area.⁹⁴

Anderson, *Recent Judicial Decisions Concerning Maritime Delimitation*, in *LAW OF THE SEA, FROM GROTIUS TO THE INTERNATIONAL TRIBUNAL FOR THE LAW OF THE SEA* 495 (Lilian del Castillo ed., 2015) [hereinafter *LAW OF THE SEA, LIBER AMICORUM*].

88. See Enrico Milano & Irini Papanicolopulu, *State Responsibility in Disputed Areas on Land and at Sea*, *HEIDELBERG J. INT'L L.* 587, 589–590 (2011).

89. See Peter Cozens, *Some Reflections on Maritime Boundary and Territorial Disputes in the Asia-Pacific with a Focus on the South China Sea*, in *THE BEST OF TIMES, THE WORST OF TIMES: MARITIME SECURITY IN THE ASIA-PACIFIC* 111, 116 (Joshua Ho & Catherine Z. Raymond eds., 2005).

90. See Donaldson, *supra* note 73, at 130; Lowell Bautista, *Dispute Settlement in the Law of the Sea Convention and Territorial and Maritime Disputes in Southeast Asia: Issues, Opportunities, and Challenges*, 6 *ASIAN POL. & POL'Y* 375, 392 (2014).

91. DAVID ANDERSON, *MODERN LAW OF THE SEA: SELECTED ESSAYS* 382 (2008).

92. See, e.g., Clive Schofield, *Parting the Waves: Claims to Maritime Jurisdiction and the Division of Ocean Space*, 1 *PENN ST. J. L. & INT'L AFF.* 58 (2012).

93. Leszek Buszynski & Iskander Sazlan, *Maritime Claims and Energy Cooperation in the South China Sea*, 29 *CONTEMP. S.E. ASIA* 143, 166 (2007).

94. For instance, after that the South Korean oil company Daewoo, operating solely under a license of Myanmar, sought to initiate drilling operation within a disputed area, Bangladesh condemned this unilateral move of Myanmar by protesting via diplomatic channels and deploying three of its navy vessels to the area. See, e.g., Jared

Coming back to the first detrimental effect that the absence of delimitation might have: there may be little desire for a petroleum company to align itself with one claimant State. It is well known that significant investments need to be made by the petroleum industry in order to be able to commence with work related to oil and gas resources.⁹⁵ However, these investments can be put at risk or may be lost due to the characteristics of a disputed maritime area to which at least two different States have entitlements and each claims to have sovereignty or jurisdiction over:⁹⁶ each State will claim to have an exclusive say over the engagement in activities in connection with oil and gas resources that are found in such an area.⁹⁷ Effectively, a company might lose its investment if the other State (i.e., the one it did not obtain a license from) turns out to have sovereignty or jurisdiction over the area that is covered by the license. Importantly, these characteristics force the industry to depart from their usual *modus operandi*, that is, to obtain the exclusive right from a coastal State to extract hydrocarbons from delimited continental shelf areas where it is clear which coastal State has sovereign rights over the continental shelf and its resources.⁹⁸

Bissinger, *The Maritime Boundary Dispute between Bangladesh and Myanmar: Motivations, Potential Solutions, and Implications*, 10 ASIA POL'Y 103, 109 (2010).

95. Corazón Morales Siddayao, *Oil and Gas on the Continental Shelf: Potentials and Constraints in the Asia-Pacific Region*, 9 OCEAN MGMT 73, 84-85 (1984).

In 1976 ... an offshore rig of average complexity was reported to cost from US\$20,000 to US\$35,000 a day, an exploration offshore well in Burma was reported to cost around \$5 million. More recent offshore drilling costs indicate that drilling and completion of one well would currently cost at least twice the 1976 figure.

Id. at 84.

96. See George Burn, et al., *Legal Issues in Cross-Border Resource Development*, 8 J. OF WORLD ENERGY L. & BUS. 154, 167 (2015); WU SHICUN, SOLVING DISPUTES FOR REGIONAL COOPERATION AND DEVELOPMENT IN THE SOUTH CHINA SEA 160 (2013); Bekker, *supra* note 43, at 10.

97. Anderson & Van Logchem, *supra* note 11, at 198.

98. Carl W. Dundas, *The Impact of Maritime Boundary Delimitation on the Development of Offshore Mineral Deposits*, 20 RESOURCES POL'Y 273, 273 (1994).

2. *The Nature of Co-Existing Sets of Rights of States*

Achieving final delimitation of overlapping claims of States is regularly preceded by the elapsing of a long period of time.⁹⁹ In certain localities, the effecting of a delimitation may be an altogether unlikely prospect. For instance, chances are slim that current outstanding disputes in the China Seas or the Aegean Sea will be settled quickly.¹⁰⁰ Historically, the measure of progress on the matter of delimitation of the maritime boundary in these localities has been minimal or even nonexistent.¹⁰¹ The nature of the overlap that arises between States' claims in relation to EEZs and continental shelves is that there are multiple sets of sovereign rights that relate to the same geographical space, as well as any offshore resources contained therein.¹⁰² The effect of such coexisting sets of rights is that, usually, claimant States consider unilateral undertakings in connection with oil and gas that is contained in undelimited continental shelves to be their exclusive prerogative.¹⁰³ In practice, States will vocalize such a position fairly regularly.¹⁰⁴ Given that claimants will operate from this assumption, the potential for controversy emerging between them is readily apparent in the case that one of them decides to act on the conviction that the oil and gas resources contained in the disputed maritime area belong to it exclusively. At the outset, it must be recognized that making a start with exploitation of oil and gas in a disputed area is difficult to reconcile with the inherency of sovereign rights over the seabed of the States involved. This view has in part evolved out of the case law that grounded the

99. Anderson & Van Logchem, *supra* note 11, at 210.

100. See, e.g., Guifang (Julia) Xue and Lei Zhang, *Maritime Disputes in Northeast Asia and Escalation of the Sino-Japan Islands Dispute: Implications and Prospects*, 35 U. Haw. L. Rev. 459, 483–484 (2013).

101. Anderson & Van Logchem, *supra* note 11, at 210.

102. Anderson & Van Logchem, *supra* note 11, at 198.

103. Anderson & Van Logchem, *supra* note 11, at 198.

104. See, e.g., Permanent Mission of the People's Republic of China to the U.N., Note Verbale to the U.N. Secretary-General, U.N. Doc. CML/17/2009 (May 7, 2009), http://www.un.org/depts/los/clcs_new/submissions_files/mysvnm33_09/chn_2009re_mys_vnm_e.pdf; Permanent Mission of the People's Republic of China to the U.N., Note Verbale to the U.N. Secretary-General, U.N. Doc. CML/18/2009 (May 7, 2009), http://www.un.org/depts/los/clcs_new/submissions_files/vnm37_09/vnm_re_chn_2009re_vnm.pdf.

principle of the continental shelf being *ipso facto* and *ab initio* attached to the coastal State.¹⁰⁵ The main implication of this is that a coastal State does not have to proclaim a continental shelf in order to have one: it exists, according to the International Court of Justice (ICJ), by virtue of the fact that the continental shelf is a physical continuation of a State's land territory.¹⁰⁶ Appertaining automatically to the coastal State, the continental shelf and all the oil and gas resources that are embedded within it belong equally to that State in the sense that it has the sovereign rights to engage in their exploitation.¹⁰⁷ Its application rests on the view that when a field containing oil and gas is located in a disputed area that is subject to the claims of different coastal States, the nature of the rights they have over the continental shelf entail that no one claimant can undertake unilateral activities in this regard without harming another State's rights that are of equal strength, validity, and substance.¹⁰⁸

III. OIL AND GAS RESOURCES STRADDLING AN ESTABLISHED MARITIME BOUNDARY

Due to their chemical composition, oil and gas resources do not respect the regularities of a maritime boundary; in fact, coastal States may be able to exploit the same reservoir from either side of an established boundary. A progression by coastal State A to the stage of drilling into the reservoir will lead away the oil and gas resources in the area—including those that are on the side of coastal State B—to the point where the reservoir is pierced by the drilled well of State A. Attempts that were made to deal with this issue on a global level by establishing universal norms have all ended in failure.¹⁰⁹ Particularly relevant in this regard were the efforts made by the International Law Commission, which, after compiling the views and State practice,

105. North Sea Continental Shelf, (Ger./Den; Ger./Neth.), Judgment, 1969 I.C.J. Rep. 3, ¶ 19 (Feb. 20) (“[T]he rights of the coastal State in respect of the area of the continental shelf that constitutes a natural prolongation of its land territory into and under the sea exist *ipso facto* and *ab initio*, by virtue of its sovereignty over the land . . .”).

106. *Id.*

107. LOSC, *supra* note 25, art. 77.

108. Anderson & Van Logchem, *supra* note 11, at 198; Miyoshi, *supra* note 4, at 6, 10.

109. See Int'l. Law Comm'n., Rep. on the Work of Its Sixty-Second Session, ¶ 382, U.N. Doc. A/65/10 (2010).

concluded that this was overwhelmingly a bilateral affair and a highly political one carrying with it varying levels of technical difficulties in particular localities.¹¹⁰ Also, there is no provision in the LOSC that was directly written with a view to deal with oil and gas resources that straddle an established maritime boundary. Paragraph 3 of Articles 74 and 83 of the Convention¹¹¹ has, however, been wrongly invoked as the general norm that is applicable in situations where existing oil and gas resources cross a settled maritime boundary line.¹¹²

There is a continuously expanding practice by States that addresses situations of overlapping claims by agreeing to a final maritime boundary.¹¹³ In terms of numbers, about 10% of these concluded delimitation agreements contain a conjoining provision that seeks to deal with straddling oil and gas resources.¹¹⁴ Saudi Arabia and Bahrain were the first to bring about a measure of cooperation concerning mineral resources straddling their established maritime boundary.¹¹⁵ The modalities of this agreement were as follows: the States concerned agreed to jointly develop an area that was rich in hydrocarbons that was completely located on the continental shelf of Saudi Arabia.¹¹⁶

Other existing agreements approach the issues arising out of the presence of straddling oil and gas resources differently: some of them will put emphasis on preserving the unity of the deposit,¹¹⁷ whereas

110. Oral Rep. of the Working Group on Shared Nat. Res., U.N. Doc. A/CN.4/SR.3069, at 12–13 (2010).

111. See *infra* Part V.

112. Cameron, *supra* note 8, at 564 (“It simply imposes a general obligation to cooperate when a deposit is found to cross boundary lines which are already delimited (or are situated in an area that is subject to overlapping claims).”).

113. Tuillo Treves, *Maritime Delimitation and Offshore Features*, in SOUTH CHINA SEA DISPUTES AND LAW OF THE SEA, *supra* note 11, at 121, 121–22.

114. See Anderson, *supra* note 85, at 138. See generally Nigel Bankes, *Recent Framework Agreements for the Recognition and Development of Transboundary Hydrocarbon Resources*, in ENERGY FROM THE SEA 106, 106–14 (Nigel Bankes & Seline Trevisanut eds., 2015).

115. RONGXING GUO, CROSS-BORDER RESOURCE MANAGEMENT 221 (2d ed. 2012).

116. *Bahrain–Saudi Arabia*, in 2 INTERNATIONAL MARITIME BOUNDARIES 1489, 1489–97 (Jonathan. I. Charney & Lewis M. Alexander eds., 1993) (discussing considerations related to the Agreement and providing the text of the Bahrain–Saudi Arabia Boundary Agreement Dated 22 February 1958).

117. See Agreement Between the Government of the State of Israel and the Government of the Republic of Cyprus on the Delimitation of the Exclusive Economic

others will lay down a framework concerning the actual use of a deposit.¹¹⁸ Given that the majority of delimitation agreements are silent on this issue,¹¹⁹ problems may emerge if a shared field is discovered after final delimitation. Upon the discovery of deposits that are transboundary in nature and when the existing delimitation agreement does not address the issue—if it does, the specific agreement will provide the relevant rules of reference—each of the States concerned has sovereign rights to develop the newly identified deposit.¹²⁰ Of course, States could remedy this omission in the delimitation agreement by agreeing to an ad hoc unitization agreement afterwards. Unitization is a method that is commonly employed by neighboring States in order to share oil and gas resources that straddle a maritime boundary between their respective concessionaires.¹²¹ It involves bringing holders of concessions from the different coastal States together in relation to an oil field that can be exploited from either side of the boundary line.¹²² This concept can be seen as the opposite of the rule of capture.¹²³ For instance, the countries bordering the North Sea have successfully managed to completely

Zone, Isr.-Cyprus, Dec. 17, 2010, 2740 U.N.T.S. 55; Agreement Between the Government of the United Kingdom of Great Britain and Northern Ireland and the Government of the Kingdom of Norway Relating to the Delimitation of the Continental Shelf between the Two Countries, Mar. 10, 1965, Gr. Brit.-Nor., GR. BRIT. TS NO. 71 (1965) (Cd. 2757).

118. See Framework Agreement Between the United Kingdom and Norway, Apr. 4, 2005, Gr. Brit.-Nor., GR. BRIT. TS NO. 20 (2007) (Cd. 7206); Treaty Between the Kingdom of Norway and the Russian Federation Concerning Maritime Delimitation and Cooperation in the Barents Sea and the Arctic Ocean, Nor.-Russ., Sep. 15, 2010, 50 I.L.M. 1113.

119. Nigel Banks, *The Regime for Transboundary Hydrocarbon Deposits in the Maritime Delimitation Treaties and Other Related Agreements of Arctic Coastal States*, 47 OCEAN DEV. & INT'L L. 141, 144 (2016).

120. See, Loja, *supra* note 30, at 897–98.

121. Int'l Law Ass'n, Int'l Comm. on the Exclusive Econ. Zone, *supra* note 46, at 512; Banks, *supra* note 114, at 117–22.

122. See, e.g., Yusuf Mohammad Yusuf, *Is Joint Development a Panacea for Maritime Boundary Disputes and for the Exploitation of Offshore Transboundary Petroleum Deposits*, 4 INT'L ENERGY L. REV. 130 (2009).

123. See Miyoshi, *supra* note 4, at 5–6; Morris, *supra* note 8, at 210; Cameron, *supra* note 8, at 570–71; Roughton, *supra* note 3, at 389.

delimit this area.¹²⁴ Regularly, these agreed final boundary agreements have been conjoined by the making of provision for cross-border oil and gas fields that have yet to be, or already have been, discovered.¹²⁵ The gist of these agreements is that oil and gas deposits straddling the boundary are to be jointly developed. Examples are the ones concluded between the Netherlands and the United Kingdom over the Markham Field¹²⁶ and the United Kingdom and Norway concerning the Frigg Field.¹²⁷

Opinions in the legal literature are divided on the issue whether one State can start with the production from its side of the line regardless of the effects this will have on the oil and gas resources that are located on the other side of the boundary.¹²⁸ In the absence of a unitization agreement, however, if one of the coastal States started development from its own side of the boundary, then, inevitably, another coastal State's sovereign rights over the deposit would be negatively affected.¹²⁹ Arguing against the applicability of the rule of capture is a general principle of international law—as stated in the Latin maxim *sic utere tuo, ut alienum non laedas*—prescribing that States have to behave as good neighbours. The ICJ found a specification of this principle (as expressed in the *Nuclear Weapons* advisory opinion,¹³⁰ and having received further

124. See James E. Horigan, *Unitization of Petroleum Reservoirs Extending Across Sub-Sea Boundary Lines of Bordering States in the North Sea*, 7 N. RES. LAWYER 67 (1974); Cameron, *supra* note 8, at 571–73.

125. See, e.g., Donaldson, *supra* note 73, at 141–42.

126. Agreement Between the United Kingdom of Great Britain and Northern Ireland and the Kingdom of the Netherlands Relating to the Exploitation of the Markham Field Reservoirs and the Offtake of Petroleum Therefrom, May 26, 1992, Gr. Brit.-Neth., GR. BRIT. T.S. No. 38 (1993) (Cd. 2254).

127. Agreement Relating to the Exploitation of the Frigg Field Reservoir and the Transmission of Gas Therefrom to the United Kingdom, Gr. Brit.-Nor., May 10, 1976, 1098 U.N.T.S. 4.

128. Compare Bundy, *supra* note 6, at 24 (arguing in support of rule of capture), with Miyoshi, *supra* note 4, at 6 (arguing against rule of capture).

129. Compare Miyoshi, *supra* note 4, at 10 (contending sovereign rights are negatively affected in the absence of unitization agreement), with Loja, *supra* note 30, at 910 (contending that sovereign rights principles are not adhered to in the context of activities on the continental shelf).

130. Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, 1996 I.C.J. Rep. 226, ¶ 229 (July 8).

endorsements in the *Gabčíkovo/Nagymaros*¹³¹ and *Pulp Mills* cases)¹³² to exist in the form of a rule of customary law that imposes on States an obligation to ensure that activities under one's own jurisdiction and control must respect the areas that are under the jurisdiction of other States and the environment in general.¹³³ Translated to the context of oil and gas resources that straddle a maritime boundary, this good neighbourliness would thus require that States abstain from conducting oil and gas operations from areas under their jurisdiction that will affect the continental shelf area of another coastal State. Given that the development of a straddling reservoir from the side of State A of the boundary will result in a loss of the amount of oil and gas that was prior to the development located on the side of State B—amounting, amongst others, to a loss of revenue for State B—the principle of good-neighborliness is difficult to align with the premise of the rule of capture, which effectively favors development above respecting another State's continental shelf rights to its resources.

IV. OIL AND GAS RESOURCES IN DISPUTED EEZS AND CONTINENTAL SHELVES

Attention will now be directed to those oil and gas fields that are located in areas where the maritime boundary remains undetermined, accompanied by a discussion of the specific issues that they present. Disputed maritime areas that are said to hold large quantities of oil and gas resources are to be found in the East China Sea,¹³⁴ the South China Sea,¹³⁵ and the Arctic.¹³⁶ Activities that are unilaterally undertaken in

131. Case Concerning the Gabčíkovo-Nagymaros Project (Hung./Slovk.), Judgment, 1997 I.C.J. Rep. 7, ¶ 53 (Sept. 25).

132. Case Concerning Pulp Mills on the River Uruguay (Arg. v. Uru.), Judgment, 2010 I.C.J. Rep. 14, ¶¶ 101, 193 (Apr. 20).

133. PATRICIA BIRNIE ET AL., *INTERNATIONAL LAW AND THE ENVIRONMENT* 137 (3rd ed. 2009).

134. Noel A. Ludwig & Mark J. Valencia, *Oil and Mineral Resources of the East China Sea: Prospects in Relation to Maritime Boundaries*, 30 *GEOJOURNAL* 381, 381 (1993).

135. Guifang (Julia) Xue, *The South China Sea: Competing Claims*, in *THE LIMITS*, *supra* note 14, at 225, 227.

connection with oil and gas will regularly lead to incidents between claimant States. The exacerbation of a dispute over the maritime boundary, whether short or long lived, is almost invariably to follow; in turn, chances of successfully achieving final delimitation are negatively affected.¹³⁷ In particular disputed maritime areas, coastal States are apparently increasing the level of unilaterally undertaken activities regarding oil and gas.¹³⁸ This may give some cause for concern, particularly because such tendencies have also been observed in areas that have a long history of serious difficulties arising over unilateral undertakings, including in the South China Sea.¹³⁹

At one end of the spectrum, a moratorium was suggested that imposes a ban on all acts related to oil and gas as long as a final maritime boundary is absent.¹⁴⁰ Pursuant to this option, the moratorium on undertaking activities concerning these offshore resources can only be lifted when all claimants agree.¹⁴¹ Bringing about cooperation between claimants was thus elevated to a precondition so oil and gas related activities could commence; the extent to which such activities could be pursued would depend on the terms of this subsequent agreement. During the Third Law of the Sea Conference, Ireland and Papua New Guinea were amongst the States that premised commencing with activities in relation to oil and gas resources in disputed areas on the condition that the States concerned had concluded an agreement; otherwise a blanket ban would be imposed on such areas concerning oil

136. OFFICE OF THE PRESS SEC^Y, NATIONAL SECURITY PRESIDENTIAL DIRECTIVE NO. 66, HOMELAND SECURITY PRESIDENTIAL DIRECTIVE NO. 25 (2009), www.nsf.gov/geo/plr/opp_advisory/briefings/may2009/nspd66_hspd25.pdf.

137. Van Logchem, *supra* note 14, at 175.

138. Yann-Huei Song, *The Potential Marine Pollution Threat from Oil and Gas Development Activities in the Disputed South China Sea/Spratly Area: A Role that Taiwan Can Play*, 39 OCEAN DEV. & INT'L L. 150, 151 (2008).

139. G. Xue, *Deep Danger: Intensified Competition in the South China Sea and Implications for China*, 17 OCEAN & COASTAL L. J. 307, 320 (2012).

140. *See Informal Suggestion by Papua New Guinea*, NG7/15 (May 9, 1978).

3. Pending agreement or settlement, the States concerned shall, either

(a) Make provisional arrangements, taking into account the provisions of paragraph 1, or
(b) establish a moratorium against economic activities within the area under dispute.

141. Van Logchem, *supra* note 14, at 180; Anderson & Van Logchem, *supra* note 11, at 200.

and gas related activity.¹⁴² Suggestions seeking to introduce moratoria could count on a critical reception from the majority of States in the Third Law of the Sea Conference;¹⁴³ their prime concern was that imposing a moratorium carried with it huge economic implications.¹⁴⁴ Despite the fact that the concept of a moratorium, or hints at its introduction, engendered significant measures of criticism, less controversy surrounded the thought that certain unilateral acts would carry with them reduced chances of coming to a final delimitation agreement.¹⁴⁵

The rule of capture can be placed at the other end of the spectrum. Tailored to disputed areas, the implication is that each claimant State would be able to start drilling and exploiting a reservoir without another claimant's consent. Between these two extremes there are middle ways, in that some acts taken in relation to oil and gas resources are permissible, whereas others have to be eschewed in a situation where no maritime boundary has been established; this latter approach has been subsequently adopted by international courts and tribunals.¹⁴⁶

At the Third Law of the Sea Conference, some States did not focus on bringing about a division by identifying permissible and impermissible activities. Rather, they sought to alleviate any problems that might arise due to an overlap of States' claims by creating a division of the maritime area of overlapping claims by means of a provisional geographic line—i.e., the median or equidistance line.¹⁴⁷ In the context of the maritime boundary dispute between China and Japan, and after reviewing the case

142. Third U.N. Conference on the Sea, *Ireland: Draft Article on Delimitation of Areas of Continental Shelf Between Neighboring States*, U.N. Doc. A/CONF.62/C.2/L.43 (Aug. 7, 1974).

143. Chairman of Negotiating Group 7, *Report by the Chairman of Negotiating Group 7 on the Work of the Group at its 17th–27th Meetings*, NG7/24 (Sept. 14, 1978).

144. See, e.g., Third U.N. Conference on the Law of the Sea, *Statements on the Second Revision of the Informal Composite Negotiating Text*, ¶¶ 119–23, A/CONF.62/SR.126 (Apr. 2, 1980) (statements of Iran).

145. See Van Logchem, *supra* note 14, at 181 (citing Chairman on the Work of Neogitation Group 7, *Report of the Chairman on the Work of Neogitating Group 7*, NG7/26 (Mar. 26, 1979)).

146. *Guyana v. Suriname*, 30 R.I.A.A. 1, Award of the Arbitral Tribunal, ¶ 467 (Perm. Ct. Arb. Sept. 17, 2007).

147. Anderson & Van Logchem, *supra* note 11, at 200; Van Logchem, *supra* note 71 at 43.

law of international courts and tribunals concerning maritime delimitation—wherein a pattern has emerged that a court or tribunal will first establish an equidistance line in order to subsequently assess relevant circumstances that may legitimize its revision—Tas argued that this solution can be equally transposed to the period preceding delimitation.¹⁴⁸ This argument is not convincing for a number of reasons: first, it conflates between the use of a provisional equidistance line in the determination of the course of a final maritime boundary and the role it fulfills as a temporary solution; and second, it brushes over the fact that the relevant provision that applies in areas of overlapping EEZs and continental shelves—paragraph 3 of Articles 74 and 83 of the LOSC, which will be discussed next—is silent on the use of an equidistance line prior to delimitation.

V. PARAGRAPH 3 OF ARTICLES 74 AND 83 OF THE LOSC¹⁴⁹

Underlying the introduction of paragraph 3 of Articles 74 and 83 into the framework of the LOSC was the recognition of its drafters that some rules had to be developed in relation to areas of overlapping EEZ and continental shelf claims that would be applicable prior to their delimitation.¹⁵⁰ This thought can be traced back to the early stages of the Third Law of the Sea Conference¹⁵¹ and eventually translated into the compromissory text of paragraph 3 of Articles 74 and 83 of the LOSC.¹⁵² One division amongst some of the States at this Conference was

148. Tas, *supra* note 43, at 53.

149. LOSC, *supra* note 25, art. 83.3.

Pending agreement as provided for in paragraph 1, the States concerned, in a spirit of understanding and cooperation, shall make every effort to enter into provisional arrangements of a practical nature and, during this transitional period, not to jeopardize or hamper the reaching of the final agreement. Such arrangements shall be without prejudice to the final delimitation.

150. See Van Logchem, *supra* note 14, at 179–81 (citing Chairman on the Work of Negotiating Group 7, *Report of the Chairman on the Work of Negotiating Group 7*, NG7/23 (Sept. 12, 1978)); Anderson & Van Logchem, *supra* note 11, at 199.

151. Rainer Lagoni, *Interim Measures Pending Maritime Delimitation Agreements*, 78 AM. J. INT'L L. 345, 349 (1984).

152. See Van Logchem, *supra* note 14, at 179–81; Anderson & Van Logchem, *supra* note 11, at 199–205.

concerning the objective that an interim rule should fulfill pending delimitation: was it to prescribe on claimant States an obligation to seek cooperation in relation to the disputed area or was the way forward to have a provisional line, drawn on the basis of equidistance, forming the outer limit up to which claimants could exercise jurisdiction prior to final delimitation? The current language of paragraph 3 of Articles 74 and 83 of the Convention was borne out of this division of views on how to approach the situation preceding coming to EEZ or continental shelf delimitation.

Paragraph 3 of Articles 74 and 83 employ an identical formulation of what is required of claimant States pending the delimitation of overlapping EEZs and continental shelves by placing them under two obligations: to motivate States to come to a mutual understanding on how to deal with a maritime area that is subject to overlapping claims and to prevent activities from commencing that will be prejudicial to final delimitation.¹⁵³ The relationship between the two obligations contained therein can, according to the Tribunal in *Guyana v. Suriname*, be phrased as follows: both obligations contained within paragraph 3 of Articles 74 and 83 are separate and can be breached independently of each other.¹⁵⁴ Both have, according to the Tribunal, a good faith component attached, requiring States to make every effort to negotiate on provisional arrangements and to not take a unilateral step that has an effect of hampering or jeopardizing final delimitation.¹⁵⁵ Paragraphs 3 of Articles 74 and 83 apply to those activities that are conducted by, or conducted under the authority of, claimant coastal States and applies to activities over which they may conjointly exercise jurisdiction. In view of their open-endedness, oil and gas related activities fall within the sphere of operation of paragraph 3 of Articles 74 and 83 of the Convention, although to what extent remains doubtful. The implications of paragraphs 3 for claimant States that are seeking to engage in oil and gas activities within a disputed EEZ or continental shelf is twofold: first, the States concerned have to exert a given measure of effort to find

153. See Anderson & Van Logchem, *supra* note 11, at 212–20; Van Logchem, *supra* note 14, at 178–81.

154. Arbitration Between Guyana and Suriname, 30 R.I.A.A. 1, Award of the Arbitral Tribunal, ¶ 459 (Perm. Ct. Arb. Sept. 17, 2007) [hereinafter *Guyana/Suriname*].

155. *Id.* at ¶ 461.

temporary cooperative means concerning oil and gas resources.¹⁵⁶ Second, they have to abstain from conduct in connection with such resources that may hamper or jeopardize the chances of coming to a final delimitation agreement.¹⁵⁷ These aspects will be elaborated on in turn in the next two subsections.¹⁵⁸

The contents of the obligations under paragraph 3 of Articles 74 and 83 of the Convention are not easily established: the provisions contain a number of elements that create some interpretational difficulties and activities that may hamper or jeopardize are not further elaborated on.¹⁵⁹ Judicial pronouncements clarifying the meaning of paragraph 3 of Articles 74 and 83 are very few: as things currently stand, the most significant elaboration is encountered in the case between Guyana and Suriname.¹⁶⁰ After the emplacement by Guyana of an oil rig within a disputed area, with the aim of commencing with exploratory drilling, the other claimant—Suriname—sought to put a halt to this conduct by sending its naval vessels.¹⁶¹ This reaction provided the reason for Guyana to take the dispute over the maritime boundary to arbitral proceedings.¹⁶² Both States contended that the other had acted in contravention of the obligations included in paragraph 3 of Articles 74 and 83 of the Convention.¹⁶³ In *Guyana v. Suriname*, the Tribunal—for the greater part building on earlier pronouncements of the ICJ in the *Aegean Sea Continental Shelf* case¹⁶⁴ and the *North Sea Continental Shelf* cases¹⁶⁵—specified two elements: first, to some degree,¹⁶⁶ what scope there is for unilateralism in disputed maritime areas, by identifying particular oil and gas related activities as hampering or jeopardizing a final agreement;

156. *Id.* at ¶¶ 459, 460–64.

157. *Id.* at ¶¶ 459, 465–70. *See also* Van Logchem, *supra* note 14, at 176.

158. *See* discussion *infra* Sections V.A, V.B.

159. Anderson & Van Logchem, *supra* note 11, at 205–06.

160. Guyana/Suriname, 30 R.I.A.A. ¶¶ 459–70.

161. *Id.* ¶ 150–51.

162. *Id.* ¶ 156.

163. Van Logchem, *supra* note 14, at 181–83.

164. Aegean Sea Continental Shelf (Greece v. Turk.), Order, 1976 I.C.J. 3 (Sept. 11).

165. Van Logchem, *supra* note 14, at 186–91.

166. It is doubtful whether the standards set out in *Guyana v. Suriname* or in the *Aegean Sea Continental Shelf* case can be generalized as being definitive statements on this matter. *See* Van Logchem, *supra* note 14, at 195–97.

and, second, the efforts that claimants have to make in order to successfully arrive at cooperative schemes.¹⁶⁷ This case law suggests that the negative obligation to not jeopardize or hamper reaching a final agreement should not be interpreted as to eliminate all room for claimants to engage in oil and gas related conduct.¹⁶⁸ For an activity to be placed within the prohibited category, it must exceed the following threshold: irreparable effects to a State's rights must be caused or the marine environment must be permanently damaged in consequence.¹⁶⁹

A. The Obligation to Exert Efforts to Come to Provisional Arrangements

The first component of paragraph 3 of Articles 74 and 83 of the LOSC seeks to induce claimant coastal States to successfully set up cooperative measures covering the disputed area.¹⁷⁰ It seeks to achieve this by obligating claimant States to make every effort to enter into some kind of provisional arrangements of a practical nature.¹⁷¹ The terminology used in State practice to refer to cooperative understandings concluded pursuant to paragraph 3 of Articles 74 and 83 of the Convention lacks uniformity: arrangements and agreements are two examples of terms that are used.¹⁷² Whatever the terminology, these agreements commonly cover situations where States with overlapping entitlements to the same maritime area agree to cooperate in the period before there is a settled boundary dividing their jurisdictions.¹⁷³ More specifically, arrangements concluded pursuant to this paragraph 3 will apply in the period when a final delimitation agreement on the overlapping EEZ or continental shelf is pending or awaited.¹⁷⁴

The first sentence of paragraph 3 of Articles 74 and 83 of the LOSC references the fact that States that are faced with overlapping EEZ and

167. Kamal Hossain, *United Nations Convention on the Law of the Sea and Provisional Arrangements Relating to Activities in Disputed Maritime Areas*, in *LAW OF THE SEA*, LIBER AMICORUM, *supra* note 87, at 674, 678.

168. Guyana/Suriname, 30 R.I.A.A. ¶ 465.

169. *Id.* ¶ 467–68.

170. See Anderson & Van Logchem, *supra* note 11, at 206.

171. LOSC, *supra* note 25, arts. 74.3, 83.3.

172. Anderson & Van Logchem, *supra* note 11, at 212–15.

173. See BRITISH INST. OF INT'L & COMPARATIVE LAW, *supra* note 42, at 18.

174. Anderson & Van Logchem, *supra* note 11, at 208–09.

continental shelf claims are required to show a certain attitude in opened negotiations for provisional arrangements within the meaning of this paragraph; they have to conduct themselves in “in a spirit of understanding and co-operation.”¹⁷⁵ The question that follows is to what extent claimants are implored to make such efforts: do they need to result in the successful setting up of a cooperative regime or is something less required, such as merely a sincere attempt at coming thereto? The scope of this obligation was addressed by the Tribunal in the case between Guyana and Suriname.¹⁷⁶ In deciding on the contention advanced by both of the disputing parties that the other breached the obligation to negotiate on provisional arrangements, the Tribunal elaborated on this obligation in some detail.¹⁷⁷ It started by stating that the positive obligation to make every effort to enter into provisional arrangements seeks to ensure that an effective use of marine resources is realized.¹⁷⁸ Running as a thread through much of the considerations of the Tribunal is that, assuming the circumstances allow for it, cooperation concerning oil and gas should be brought about;¹⁷⁹ coming to cooperation was found to be particularly prudent in order to “preserv[e] the unity of [the] deposit[.]”¹⁸⁰ Another key finding of the Tribunal, despite the emphasis it placed on the desirability of coming to a measure of cooperation, was that there is no hard obligation for claimants to successfully set up provisional arrangements; rather, the States concerned must enter into negotiations in good faith.¹⁸¹ The Tribunal largely replicated this point from the ICJ’s finding in the *North Sea Continental Shelf* cases. Underscoring the importance of holding good faith negotiations, the ICJ found in this case that States are required to exert genuine efforts to arrive at cooperation under this obligation.¹⁸² The Tribunal went on to interpret the phrase of “in a spirit of understanding and cooperation” in a broad way by stating that it embodies an aspect of what the obligation to negotiate in good

175. LOSC, *supra* note 25, arts. 74.3, 83.3.

176. Guyana v. Suriname, 30 R.I.A.A. 1, Award of the Arbitral Tribunal, ¶¶ 465–70 (Perm. Ct. Arb. Sept. 17, 2007).

177. *Id.* ¶ 465–70.

178. *Id.* ¶ 464.

179. *Id.* ¶ 460, 463.

180. *Id.* ¶ 463.

181. *Id.* ¶ 461.

182. North Sea Continental Shelf, (Ger./Den; Ger./Neth.), Judgment, 1969 I.C.J. Rep. 3, ¶ 87 (Feb. 20).

faith requires of States that are faced with an overlap of entitlements over the same maritime area.¹⁸³

1. *Joint Development of Oil and Gas Resources*

One example of a type of cooperation that can be brought within the meaning of provisional arrangements pursuant to paragraph 3 of Articles 74 and 83 of the LOSC is joint development of oil and gas resources. It must however be emphasized that not all joint development agreements have been concluded with this common paragraph in mind; in fact, it may have not been at all guiding in their preparation.¹⁸⁴ The concept of joint development is subject to some definitional difficulties.¹⁸⁵ Some authors consider both agreements concerning oil and gas resources that are located in disputed areas and those that straddle an established maritime boundary to fall under one broad definition.¹⁸⁶ For instance, Churchill defines these agreements as relating to “an area where two or more States have, under international law, sovereign rights to explore and exploit the natural resources of the area and where the States concerned have agreed to engage in such exploration and exploitation under some form of common or joint arrangement.”¹⁸⁷ Under this view,

183. *Guyana v. Suriname*, 30 R.I.A.A. ¶ 460.

184. The preamble to a provisional arrangement concluded between Algeria and Tunisia, establishing a provisional maritime boundary between the coasts of the two States, explicitly refers to paragraph 3 of articles 74 and 83 of the LOSC. *See generally*, Agreement on Provisional Arrangements for the Delimitation of the Maritime Boundary Between the Republic of Tunisia and the People’s Democratic Republic of Algeria, Alg.-Tunis., Feb. 11, 2002, 2238 U.N.T.S. 208. For an example of a provisional arrangement where paragraph 3 of articles 74 and 83 LOSC played no role see an agreement concluded between Japan and South Korea, which was concluded before the LOSC entered into force. *See generally*, Agreement Concerning Joint Development of the Southern Part of the Continental Shelf Adjacent to the Two Countries, Japan-S. Kor., Jan. 30, 1974, 1225 U.N.T.S. 113.

185. *See* Chidinma B. Okafor, *Joint Development: An Alternative Legal Approach to Oil and Gas Exploitation in the Nigeria-Cameroon Maritime Boundary Dispute*, 21 *Int’l J. Marine & Coastal L.* 489, 493–95 (2006); Miyoshi, *supra* note 4, at 5–6.

186. Masahiro Miyoshi, *The Joint Development of Offshore Oil and Gas in Relation to Maritime Boundary Delimitation*, 2 *INT’L BOUNDARIES RES. UNIT MAR. BRIEFING*, no. 5, 1999, at 1, 3.

187. R.R. Churchill, *Joint Development Zones: International Legal Issues*, in *BRITISH INST. OF INT’L AND COMPARATIVE LAW*, 2 *JOINT DEVELOPMENT OF OFFSHORE OIL AND GAS* 55, 55 (Hazel Fox et al. eds., 1990).

emphasis is placed on that it concerns coastal States which have, or claim to have, sovereign rights over a maritime area, and who agree to bundle these rights over an identified oil and gas deposit by setting up a cooperative scheme. Lagoni does not discriminate between oil and gas reservoirs that straddle a maritime boundary or that straddle an undelimited area by defining *joint development* as “the co-operation between States with regard to the exploration for and exploitation of certain deposits, fields or accumulations of non-living resources, which either extend across a boundary or lie in an area of overlapping claims.”¹⁸⁸ Other commentators have emphasized the distinction between arrangements that have been agreed to in situations where a maritime boundary is either absent or present.¹⁸⁹

The first provisional understanding that related to oil and gas and involved an area of overlapping entitlements was the one agreed to between Japan and South Korea in the Yellow Sea in 1974.¹⁹⁰ Despite Chinese protests, the primary reason for it having been abandoned since seems to have been the lack of exploratory success.¹⁹¹ Ever since, States have increasingly turned to means that enable them to cooperate in matters involving oil and gas that is located in disputed areas. In terms of numbers, around thirty formal¹⁹² provisional arrangements have been concluded between States whose maritime claims overlap;¹⁹³ however, not all of these have brought oil and gas related activities within their

188. Int’l Law Ass’n, Int’l Comm. on the Exclusive Econ. Zone, *supra* note 46, at 511–12.

189. See Paul M. Blyschak, *Offshore Oil and Gas Projects Amid Maritime Border Disputes: Applicable Law*, 6 J. WORLD ENERGY L. & BUS. 210, 217 (2013); Mochtar Kusuma-Atmadja, *Joint Development of Oil and Gas in Neighbouring Countries, in SUSTAINABLE DEVELOPMENT AND PRESERVATION OF THE OCEANS: THE CHALLENGE OF UNCLOS AND AGENDA 21 592* (Mochtar Kusuma-Atmadja et al. eds., 1997) [hereinafter SUSTAINABLE DEVELOPMENT].

190. Gu Junfeng, *An Analysis on the Legal Effects of the Exclusion Declaration Issued by China in Accordance with Article 298 of the United Nations Convention on the Law of the Sea*, 2007 CHINA OCEANS L. REV. 303, 331–32 (2007).

191. GUO, *supra* note 115, at 273.

192. However, there may be additional informal provisional arrangements (i.e., *modus vivendi*) which have come about through the alignment of States’ conduct.

193. See BEN MILLIGAN, LEGAL AND POLICE OPTIONS FOR THE PROVISIONAL JOINT MANAGEMENT OF MARITIME SPACES SUBJECT TO OVERLAPPING JURISDICTIONAL CLAIMS 29 (2012).

purview.¹⁹⁴ Amongst this range of existing provisional arrangements, about twenty relate to oil and gas resources.¹⁹⁵ The specifics of provisional arrangements are left to the decision of the States whose claims over the same EEZ and continental shelf overlap.¹⁹⁶ A key principle attached to provisional arrangements is that they only apply *res inter alios acta*; hence, any rights and interests third States may have remain unaffected.¹⁹⁷

Negotiations over joint development, for instance concerning the joint management of an oil and gas field, can be as difficult as talks that aim at establishing a definitive maritime boundary: they can be lengthy, complex, and contentious, as well as of a highly technical nature.¹⁹⁸ Furthermore, in cases where joint development negotiations have succeeded¹⁹⁹ political changes or changes in the political will may deprive agreed provisional arrangements of their usefulness.²⁰⁰

Be this as it may, according to one commentator, there has been a rush amongst States to design cooperative modalities to allow for the development of oil and gas resources whenever they are contained within an area of overlapping maritime claims.²⁰¹ Redgwell has phrased it more moderately by observing: “Joint development agreements are an increasingly common legal form for embedding state cooperation to

194. Martin, *supra* note 81, at 189–90.

195. See MILLIGAN, *supra* note 193, at 29.

196. See Cameron, *supra* note 8, at 566; Anderson & Van Logchem, *supra* note 11, at 206.

197. Mark J. Valencia & Masahiro Miyoshi, *Southeast Asian Seas: Joint Development of Hydrocarbons in Overlapping Claim Areas?*, 16 *Ocean Dev. & Int'l L.* 211, 212 (1986).

198. See Anderson, *supra* note 91, at 480–81; Ian Townsend-Gault & William Stormont, *Offshore Petroleum Joint Development Arrangements: Functional Instrument? Compromise? Obligation?*, in *THE PEACEFUL MANAGEMENT*, *supra* note 6, at 51, 52.

199. See Ian Townsend-Gault, *The Malaysia/Thailand Joint Development Arrangement*, in 2 *JOINT DEVELOPMENT*, *supra* note 187, at 102, 107; Ian Townsend-Gault, *Zones of Cooperation in the Oceans – Legal Rationales and Imperatives*, in 16 *MARITIME BORDER DIPLOMACY* 109, 111 (Myron H. Nordquist & John Norton Moore eds., 2012).

200. See Masahiro Miyoshi, *Is Joint Development Possible in the South China Sea?*, in *SUSTAINABLE DEVELOPMENT*, *supra* note 189, at 610, 615; Townsend-Gault & Stormont, *supra* note 198, at 67; S. P. Jagota, *Maritime Boundary and Joint Development Zones: Emerging Trends*, 10 *OCEAN Y.B.* 110, 117 (1993).

201. Cameron, *supra* note 8, at 559.

exploit a straddling field.”²⁰² Due to the broadening practice of States to turn to cooperative means, consideration has to be given to what extent it is mandated under international law, for instance in the shape of a rule of customary law, to successfully come to cooperation regarding oil and gas resources that are located in disputed areas. Different views have been advanced on the matter of whether successfully setting up joint development schemes for hydrocarbons has the status of a rule of customary international law, ranging from that it has become such a rule to that it has not.²⁰³ Between these extremes, there is the view that a customary international rule may have been developed only in certain localities, particularly there where States have turned in great numbers to cooperative means; for instance, in the North Sea.²⁰⁴ However, State practice lacks uniformity concerning the extent that States have adopted cooperative means concerning oil and gas; currently, there are only a relatively small number of cooperative modalities seeking to deal with these resources in maritime areas that are unregulated by a maritime boundary.²⁰⁵ This, at least, puts into question whether there is a widespread practice of States that are faced with an overlap of their claims over the same maritime area. Further, coming to these cooperative endeavors must be borne out of a conviction on the part of the relevant States that international law does so prescribe, often stated in the Latin maxim *opinio juris sive necessitatis*. In this regard, it is interesting to note that a great number of the States that certainly meet the interest requirement, including those with coastal fronts on the South China Sea, Aegean Sea, and Mediterranean Sea, have been largely unable to successfully come to joint development of any oil and gas resources found in these localities.²⁰⁶

202. Catherine Redgwell, *Energy, in THE PRACTICE OF SHARED RESPONSIBILITY IN INTERNATIONAL LAW* 1071, 1080 (André Nollkaemper et al. eds., 2017).

203. See, e.g., Ong, *supra* note 48, at 796–98.

204. Miyoshi, *supra* note 4, at 8–10.

205. See Milligan, *supra* note 193, at 22.

206. The list of States is long, but, for instance, includes Greece and Turkey, who have been unable to set up any means to jointly develop oil and gas resources that are contained in the disputed Aegean Sea. Also in the Mediterranean Sea, Israel (which is not a party to the LOSC) and Lebanon have not devised cooperation in connection with oil and gas. Large parts of the South China Sea remain undelimited as well; underlying sovereignty issues over islands and the fact that often more than two States have to be involved has made coming to joint development agreements especially difficult area.

B. The Obligation to Abstain from Certain Unilateral Acts

The second component of paragraph 3 of Articles 74 and 83 of the LOSC is the obligation to not hamper or jeopardize, which is largely negative in nature. Its main aim is to avoid unilateral actions undertaken in connection with a maritime area that is subject to overlapping claims of two or more coastal States because these might have a detrimental effect on the chances that final delimitation is successfully achieved.²⁰⁷ The obligation to not hamper or jeopardize in the context of oil and gas resources first seeks to put limitations on the scope to freely engage in associated conduct related thereto.²⁰⁸ Second, it influences the type of response that can be formulated by claimant State A who is faced with a unilateral act undertaken by claimant State B with regard to oil and gas resources that are located in a disputed EEZ or continental shelf.²⁰⁹ Leaving the second aspect further aside, attention will be directed to the first effect of paragraph 3, to the extent that it limits the scope for unilateralism with regard to oil and gas related activities. The question arises to what extent the obligation to not hamper or jeopardize shackles a claimant State that seeks to engage in oil and gas related conduct. Whilst it is clear that this obligation seeks to prevent certain unilateral activities from commencing, less evident is what particular activities relating to oil and gas are caught under the reach of this obligation: does it seek to prevent them all from commencing, or does this vary with the type of activity involved? As to what these prohibited categories of actions are, the Tribunal in *Guyana v. Suriname* drew heavily, though with some variations, on the ICJ's *Aegean Sea Continental Shelf* case. In the *Aegean Sea Continental Shelf* case, the ICJ produced a list of unilateral acts that would have caused "irreparable prejudice" to another State's rights and, a fortiori, would have given it sufficient reason to prescribe interim measures of protection in an order.²¹⁰ Placing installations on or above the seabed, appropriating natural resources of the area of the continental shelf, and causing physical damage to the

207. See Anderson & Van Logchem, *supra* note 11, at 207; Van Logchem, *supra* note 14, at 179.

208. Van Logchem, *supra* note 14, at 195.

209. *Id.*

210. *Aegean Sea Continental Shelf (Greece v. Turk.)*, Order, 1976 I.C.J. 3, ¶ 30 (Sept. 11).

seabed or subsoil or to any natural resources in the continental shelf were the three categories that brought about a severe enough mutation of a State's right that warranted the giving of interim protection according to the ICJ.²¹¹ Coming back to the reasoning of the Tribunal in *Guyana v. Suriname*, it began by pointing out that the obligation to not hamper or jeopardize is a specific application of the general principle to settle disputes peacefully under international law.²¹² It went on to emphasize the undesirability of completely sterilizing the disputed maritime area from economic development: due to its economic implications, the solution of a moratorium has to be avoided to the greatest possible extent.²¹³ Nonetheless, the Tribunal regarded it vital to prevent certain unilateral conduct from commencing: that is, those acts which would exert permanent effects on the marine environment.²¹⁴

1. Seismic Work

Uncertainty may prevail over the true extent of oil and gas resources that are located in maritime areas of overlap,²¹⁵ regularly, this is the direct result of the disputed status of an area, which can significantly complicate activities to proceed that seek to address this uncertainty. Some States have taken the position that the disputed status of an area of overlap precludes altogether that seismic work may commence. For example, areas that are subject to the overlapping claims of Cambodia and Thailand in the Gulf of Thailand remain unresearched as a

211. *Id.*

212. *Guyana/Suriname*, 30 R.I.A.A. 1, Award of the Arbitral Tribunal, ¶ 465 (Perm. Ct. Arb. Sept. 17, 2007).

213. *Id.*

214. *Id.* ¶ 470.

However, international courts and tribunals should also be careful not to stifle the parties' ability to pursue economic development in a disputed area during a boundary dispute. . . . It is the Tribunal's opinion that drawing a distinction between activities having a permanent physical impact on the marine environment and those that do not, accomplishes this and is consistent with other aspects of the law of the sea and international law.

215. Nick A. Owen & Clive H. Schofield, *Disputed South China Sea Hydrocarbons in Perspective*, 36 MARINE POL'Y 809, 809 (2012).

consequence of such positions.²¹⁶ In other localities, issuing licenses or concessions for oil and gas or other mineral activities by claimants, in respect of maritime areas where the boundary is disputed, including for seismic work, is fairly common.²¹⁷ In certain instances in the past, the possibility of conducting seismic work in order to provide information over the extent to which petroleum resources are present within a disputed continental shelf area has been arguably aided in agreeing on a final delimitation agreement.²¹⁸ However, this statement is certainly not universally true, particularly because there are a number of situations where the known presence of deposits had led States to become entrenched in their positions that final delimitation has to be effected in a particular way.²¹⁹ The activation of an oil and gas license or the authorization of a seismic survey, may, and regularly does, ignite controversy between claimants, ranging from verbal spats to the sending of naval vessels to put a stop to an already initiated seismic surveying operation.²²⁰ The following is an example of a controversy which arose in the Bay of Bengal between Bangladesh and India that followed from a unilateral seismic operation in connection with oil and gas that was rumored to be located in a disputed maritime area.²²¹ Bangladesh had almost consistently taken the position that all unilateral conduct of activities in relation to petroleum resources had to be postponed until agreement was reached on where the maritime boundary running

216. See Boonsong Kosit, *Oil Sidelined in Thailand-Cambodia Dispute*, PLATTS OILGRAM NEWS, May 18, 2011; Clive Schofield & May Tan-Mullins, *Maritime Claims, Conflicts and Cooperation in the Gulf of Thailand*, in 22 OCEAN Y.B. 78 (2008).

217. Mark J. Valencia, *Asia, The Law of the Sea and International Relations*, 73 INT'L AFF. 263, 270 (1997) ("The granting of hydrocarbon concessions in disputed ocean areas is a common but provocative way for claimant states to exercise jurisdiction.").

218. *Attorney: Expect More Maritime Disputes With Deep Offshore*, *supra* note 78, at 3.

219. This has been the case in the South China Sea, where perceptions on what areas are particularly rich in oil and gas has made States wary of compromise. See Schofield, *supra* note 80, at 120–24.

220. For example, an announcement of the Philippines, that it would open disputed maritime areas off the coast of the Island of Palawan for receiving bids from the petroleum industry, provoked China to protest. See Zou Keyuan, *Joint Development in the South China Sea: A New Approach*, 21 INT'L J. MARINE & COASTAL L. 83, 87 (2006).

221. *Bangladesh, Burma Dispute Oil Exploration in Bay of Bengal*, VOICE OF AM. NEWS (Oct. 27, 2009, 7:39 PM), <https://www.voanews.com/a/a-13-2008-11-04-voa8-66795227/373816.html>.

between the coasts of itself and India would be.²²² A seismic vessel (*CGG Symphony*) equipped with the instruments to take a survey of the seabed, operated by a company incorporated in a third State (Australia) and licensed by India, operated in close proximity to the disputed South Talpatty/New Moore Island and was subsequently forced to put a halt to its planned operation by Bangladesh; in its wake a diplomatic controversy arose between Bangladesh and India.²²³

Issues in connection with exploring for oil and gas resources in a disputed continental shelf emerged first in the *Aegean Sea Continental Shelf* case.²²⁴ Prior to the entering into force of the LOSC, Greece and Turkey became embroiled in a dispute over the conduct of seismic operations by Turkey in relation to the Aegean Sea continental shelf on two separate occasions.²²⁵ Against this backdrop, Greece felt compelled to bring this dispute to the ICJ and simultaneously to the United Nations Security Council.²²⁶ In the proceedings for interim protection, Greece took the position that its sovereign rights were irreversibly infringed upon through the unilateral seismic acts of Turkey.²²⁷ Greece took particular issue with the fact that this resulted in a knowledge advantage for Turkey as unilateral surveying would provide one claimant with more information over the composition of the disputed continental shelf.²²⁸ Activities that are designed to obtain information of the continental shelf fell, according to Greece, in the category of activities that can only be conducted by the relevant coastal State to the detriment of any other State.²²⁹ In fact, Greece sought to convince the ICJ that there is no freedom for claimants to unilaterally gain information on the

222. *Id.* (“Bangladesh says it has refrained from energy exploration in the Bay of Bengal because both countries have yet to agree to a maritime boundary in the area.”).

223. *Indian Ships Leave Bangladeshi “Territorial Waters”*, BBC MONITORING S. ASIA, Dec. 28, 2008.

224. *Aegean Sea Continental Shelf (Greece v. Turk.)*, Order, 1976 I.C.J. 3 (Sept. 11).

225. YÜCEL ACER, *THE AEGEAN MARITIME DISPUTES AND INTERNATIONAL LAW* 36–38 (2003).

226. S.C. Res. 395 (Aug. 25, 1976).

227. *Aegean Sea Continental Shelf*, 1976 I.C.J. 5–6; *Aegean Sea Continental Shelf (Greece v. Turk.)*, 1976 I.C.J. Oral Arguments 141 (Sept. 11, 1976).

228. *Aegean Sea Continental Shelf*, 1976 I.C.J. Oral Pleadings 108–09.

229. *Id.*

composition of a disputed seabed.²³⁰ The ICJ struck down the contention presented by Greece that there is exclusivity for the coastal State to engage in information collecting activities that might have a practical application for oil and gas related activities.²³¹ In applying the test of irreparable prejudice, the ICJ found that seismic exploration did not exceed this threshold.²³² While admitting that a State's rights would be somewhat prejudiced, the ICJ concluded that the extent of prejudice done could be repaired ex post facto by financial means in case the area in question would be brought under the jurisdiction of Greece after final delimitation.²³³ Another key aspect that was relevant for the decision over the lawfulness of the unilaterally undertaken seismic work was its fleetingness, which was exemplified in the following way: seismic work will only involve shooting seismic waves down at the seabed from a vessel, after completing this it will evict the disputed area.²³⁴ More specifically, the ICJ held that seismic work does not carry the "risk of physical damage to the seabed or subsoil," considering that the work was only accompanied by a few small explosions that were set off by the seismic vessel in surveying the seabed.²³⁵ The acceptability of conducting unilateral seismic work was further confirmed by the Tribunal in *Guyana v. Suriname*, which held in largely the same terms as the ICJ that seismic work is allowed to unilaterally proceed.²³⁶

2. Drilling

It has been asserted that drilling could not realistically commence in disputed maritime areas, due to the unwillingness on the part of the petroleum industry to commit itself thereto.²³⁷ This has, however, not

230. *Aegean Sea Continental Shelf*, 1976 I.C.J. 5–6.

231. *Id.*, at 10–11.

232. *Id.*

233. *Id.*, at 11–12.

234. *Id.*, at 10.

235. *Id.*

236. *Guyana/Suriname*, 30 R.I.A.A. 1, Award of the Arbitral Tribunal, ¶¶ 467, 479–81 (Perm. Ct. Arb. Sept. 17, 2007).

237. William T. Onorato, *A Case Study in Joint Development: The Saudia Arabia-Kuwait Partitioned Neutral Zone*, 10 ENERGY 539, 540 (1985) ("Drilling is the only way to prove petroleum, and the international oil industry, operators for, and conventurers

proven to be an accurate reflection of what subsequent practice has evolved into because, not infrequently, some measure of drilling has proceeded with the approval of only one claimant State in disputed areas. For example, the emplacement of a number of drilling rigs to initiate drilling into disputed parts of the continental shelf in the South China Sea led to an outcry by Vietnam in 2014.²³⁸ Glancing over the legality of the act of positioning a number of rigs in this area, a Chinese official referred to the normality of moving drilling rigs into disputed maritime areas in order to commence operations there.²³⁹ Further, in a disputed part of the continental shelf of the Gulf of Thailand, Malaysia activated a concession held by one of its concessionaires (Hamilton), which drilled an exploratory well in March 1991 and subsequently generated a formal protest from Vietnam in 1992.²⁴⁰

Drilling was also at the forefront of difficulties that arose between Guyana and Suriname. Guyana licensed an oil rig, which was operated by a company incorporated in a third State, to engage in drilling within the contested area.²⁴¹ After the oil rig positioned itself in the disputed area, it was removed through efforts of the Surinam navy; this response and the specificities surrounding this removal were, however, heavily condemned by the Tribunal.²⁴² Suriname contended that two acts committed by Guyana violated the negative obligation under paragraph 3

with States will probably not commit their risk capital and resources in a politically unsettled or undefined situation.”).

238. *China's Illegal Placement Of Haiyang Shiyou 981 Oil Rig in the Exclusive Economic Zone and Continental Shelf of Viet Nam*, CONSULATE OF THE SOCIALIST REPUBLIC OF VIET. IN N.Y., U.S. (July 7, 2014, 11:01 AM), <http://vietnamconsulate-ny.org/news/2014/07/position-paper-viet-nam-chinas-illegal-placement-haiyang-shiyou-981-oil-rig-exclusive>.

239. Megha Rajagopalan & Charlie Zhu, *China Sends 4 Oil Rigs to South China Sea Amid Regional Tensions*, BUS. INSIDER (June 20, 2014, 6:10 AM), <http://www.businessinsider.com/china-sends-4-oil-rigs-to-south-china-sea-amid-regional-tensions-2014-6> (““For these normal activities there is no need for over-reading or to make any particular links,” Chinese Foreign Ministry spokeswoman Hua Chunying told a daily briefing in Beijing. ‘Please don’t worry, there won’t be any problem.’”).

240. Nguyen Hong Thao, *Vietnam and Joint Development in the Gulf of Thailand*, 8 ASIAN Y.B. OF INT’L L. 137, 140-41 (2003).

241. Guyana/Suriname, 30 R.I.A.A. ¶ 453.

242. *Id.* ¶ 445, 476.

of Articles 74 and 83 of the LOSC:²⁴³ first, its authorization to its concessionaire to conduct exploratory drilling in the disputed maritime area; and, second, the fact that the oil rig sought to commence drilling into the disputed continental shelf without the approval of Suriname.²⁴⁴ In its pleadings, tailored to defending the lawfulness of the unilateral act of drilling, Guyana rarely went beyond replicating the terms of the reasoning as elucidated by the ICJ in the *Aegean Sea Continental Shelf* case in order to substantiate its argument that surveying and drilling are two sides of the same coin.²⁴⁵ The main gist of Guyana's argument was that the effects that follow from drilling into the continental shelf and surveying are comparable: both are activities of an inherently transitory character.²⁴⁶ In framing its argument, by using language that both acts were of a transitory nature, Guyana sought to bring drilling within the category of activities the ICJ earlier held to be insufficient reason to offer interim protection.²⁴⁷ However, the Tribunal struck down this contention: it held that drilling has to be distinguished from conducting seismic work since it exerts very different degrees of change.²⁴⁸ More specifically, drilling is a type of activity that would bring about irreversible effects on another claimant's rights, as well as the marine environment,²⁴⁹ whereas seismic work was largely benign.²⁵⁰ Conversely, contrary to what Suriname claimed,²⁵¹ the act of licensing a concessionaire to commence with drilling in a disputed area provided *simpliciter* insufficient reason for assuming that a breach had occurred.²⁵² It was deemed of critical importance by the Tribunal that a unilateral act would engender one of the following two effects: creating a permanent change in the rights of another party to the dispute or having a physical and permanent impact

243. Rejoinder of the Republic of Suriname, Guyana/Suriname, 152 (Sept. 1, 2006).

244. *Id.*

245. Van Logchem, *supra* note 14, at 186–91

246. Reply of Guana, Guyana/Suriname, 141–43 (Apr. 1, 2006).

247. *Id.*, at 143–44.

248. Guyana/Suriname, 30 R.I.A.A. ¶ 479.

249. *Id.* ¶¶ 479–82.

250. *Id.* ¶ 481.

251. Rejoinder of the Republic of Suriname, Guyana/Suriname, 152 (Sept. 1, 2006).

252. Guyana/Suriname, 30 R.I.A.A. ¶ 482.

on the marine environment.²⁵³ In case an activity was to create one of these effects, it may only commence pursuant to the prior consent of all the claimants concerned.²⁵⁴ In applying this standard to exploratory drilling, the Tribunal concluded that this was an example of an activity that would result in permanent physical damage being done to the marine environment.²⁵⁵

3. *Exploitation of Natural Resources*

The ICJ classified exploitation or attempts at appropriating the natural resources of a disputed area of the continental shelf in the *Aegean Sea Continental Shelf* case as one of the activities that, if they were to commence, would justify giving an order containing interim measures of protection.²⁵⁶ Central to arriving at this conclusion were the following two considerations: first, the rights of States are threatened with irreparable prejudice; and, second, the seabed or subsoil is physically damaged as a consequence of exploitation.²⁵⁷ After the ICJ came to its decision in the *Aegean Sea Continental Shelf* case and largely following its pronouncements on the illegality of the unilateral exploitation of oil and gas resources within a disputed maritime area, the view that

253. *Id.* ¶ 480.

254. *Id.* ¶ 470.

It should not be permissible for a party to a dispute to undertake any unilateral activity that might affect the other party's rights in a permanent manner. However, international courts and tribunals should also be careful not to stifle the parties' ability to pursue economic development in a disputed area during a boundary dispute, as the resolution of such disputes will typically be a time-consuming process. This Tribunal's interpretation of the obligation to make every effort not to hamper or jeopardise the reaching of a final agreement must reflect this delicate balance. It is the Tribunal's opinion that drawing a distinction between activities having a permanent physical impact on the marine environment and those that do not, accomplishes this and is consistent with other aspects of the law of the sea and international law.

255. *Id.* ¶¶ 480, 481.

256. *Aegean Sea Continental Shelf (Greece v. Turk.)*, Order, 1976 I.C.J. 10, ¶ 30 (Sept. 11).

257. *Id.* ¶¶ 30–32.

international law prohibits the unilateral development of oil and gas resources has been expressed in literature.²⁵⁸ Similarly, Lagoni concluded on the basis of this case that “the ‘actual appropriation or other use of the natural resources,’ would doubtless be prohibited under paragraph 3 of Articles 74/83.”²⁵⁹ Further reinforcing this view is the case between Guyana and Suriname because the argument of the Tribunal can effectively be read as a (further) renunciation of the existence of a rule of capture in disputed maritime areas under international law. Although the Tribunal stated that there is no obligation for States to agree to provisional arrangements pursuant to paragraph 3 of Articles 74 and 83 of the LOSC, developing oil and gas from a disputed area would have, nonetheless, to be preceded by agreeing to joint development or would have to be postponed until the maritime boundary question is conclusively resolved.²⁶⁰

VI. CONCLUDING REMARKS: (RE-)EVALUATING THE STATUS OF A RULE OF CAPTURE UNDER INTERNATIONAL LAW WITH REGARD TO OIL AND GAS RESOURCE RELATED ACTIVITIES AT SEA

In view of the above assumptions as to whether a rule of capture could operate or is actually operating at sea—in the situations where a common oil and gas deposit is found straddling an established boundary or is located in a disputed maritime area—it is opportune to redefine its status under modern international law of the sea. To start, coastal States have the sovereign right to explore and exploit oil and gas resources in areas that are under their exclusive jurisdiction.²⁶¹ Their freedom to engage in oil and gas related activities is, however, premised on two considerations: first, the outer limits of the maritime boundary constitute

258. Robson, *supra* note 9, at 8 (“International law probably does no more than to oblige states to refrain from unilateral development where a risk of irreparable prejudice to rights or of physical damage to the sea-bed or subsoil is involved.”).

259. Lagoni, *supra* note 151, at 366.

260. Guyana/Suriname, 30 R.I.A.A. ¶ 467 (“A distinction is therefore to be made between activities of the kind that lead to a permanent physical change [to the marine environment], such as exploitation of oil and gas reserves, and those that do not, such as seismic exploration.”).

261. See LOSC, *supra* note 25, arts. 56, 77 & 137. See generally *id.* art. 193; U.N. Conference on the Human Environment, *Declaration of the United Nations Conference on the Human Environment*, ¶ 21, U.N. Doc. A/CONF.48/14/Rev.1 (June 5–16, 1972).

the points up to which States can engage in such conduct; and, second, the activities undertaken on one's own side of the maritime boundary may not have detrimental transboundary effects in that the rights and interests of the neighbor State(s) are harmed as a consequence. Difficulties brought out by straddling oil and gas deposits may emerge concerning this latter aspect: in short, commencing with drilling on the side of State A into a reservoir whose geological properties are such as to extend beyond a determined boundary will result in the consequential decrease of the oil and gas resources that are located on the part of the continental shelf of State B. At an increasing rate, States have either anticipated the arising of this problem by including a relevant provision in a final delimitation agreement or have upon their discovery concluded a separate unitization agreement to tackle the issue. This expanding practice of cooperative schemes that have been put in place feeds the suggestion that a rule of capture has been countermanded. There are two additional arguments that can be invoked against the alleged validity and applicability of the rule of capture to these straddling deposit type of situations: first, progressing to development will violate the sovereign rights a coastal State has in exploring and exploiting the continental shelf; and, second, one application of the principle of good neighborliness is that State A has to respect the areas belonging to State B under international law of the sea.

Now, to turn to those localities where a maritime boundary is absent. At the outset, it must be recognized that moving to the stage of exploitation in a maritime area that is undelimited by way of a final boundary can carry with it a number of practical limitations. First of all, a discovered oil and gas field has, as recognized earlier,²⁶² a lead-in time of approximately ten years before it is able to produce. In view of this duration, it is unlikely that claimant State B will remain in the dark over that State A took a drilled well into production; the amount of time required for a well to start producing provides State B with ample opportunity to detect such activities and to subsequently formulate a response showing its misgiving.²⁶³ Second, once State B learns thereof, it is almost sure to evoke its response, which can make the decision to physically prevent such activities from commencing by, for instance,

262. Schofield, *supra* note 67, at 39.

263. *Id.*

sending its naval vessels.²⁶⁴ Beyond these practical limitations, from the perspective of international law, the position that exploitation of oil and gas cannot commence unilaterally in disputed areas has a firm anchoring. Despite some examples from State practice that might suggest the pre-eminency of the rule of capture, the position that unilateral development cannot commence in maritime areas of overlapping claims has received significant judicial approbation over the years. Both the *Aegean Sea Continental Shelf* case and *Guyana v. Suriname* make clear that a unilateral progression to the phase of development is unlawful: the unilateral development of offshore oil and gas resources is prohibited, as it results in the fact that a State's rights are threatened with irreparable prejudice or that in consequence the seabed or subsoil or the marine environment is physically damaged.²⁶⁵ These findings of the ICJ and the Tribunal are virtually impossible to reconcile with the idea that a rule of capture could lawfully operate in disputed maritime areas. Whether States will observe the prohibition on the unilateral taking of oil and gas from such an area or will seek to disregard it for whatever reason is of course an altogether different matter, but any more or less sporadically emerging contrary practice cannot be interpreted as undermining the position that the rule of capture, as understood in its original sense, does not reflect the current state of international law in disputed maritime areas.

This contribution has also sought to address whether there is a rule of largely similar import that sees to commencing with drilling and seismic work in a disputed area by employing a variation on how the rule of capture is traditionally understood—i.e., as being concerned with developing a straddling oil and gas field. As far as drilling is concerned, the pursued strand of enquiry was whether international law allows one claimant State to drill a well and put the generated information, generally through an analysis of a core sample, at its sole disposal. The same earlier identified case law of the ICJ and the Arbitral Tribunal both brought drilling under the range of unilateral activities that would be caught under the obligation to not hamper or jeopardize final

264. See Ibrahim F.I. Shihata & William T. Onorato, *Joint Development of International Petroleum Resources in Undefined and Disputed Areas*, in BOUNDARIES AND ENERGY, *supra* note 1, at 433, 448.

265. *Aegean Sea Continental Shelf (Greece v. Turk.)*, Order, 1976 I.C.J. 10, ¶ 30 (Sept. 11). *Guyana/Suriname*, 30 R.I.A.A. ¶ 468.

delimitation.²⁶⁶ In the literature, however, some voices have emerged that the Tribunal did not fully shut the door and that not all types of drilling would be captured under its dictum, such that drilling would not in general have to be eschewed pending delimitation.²⁶⁷ Giving cause for questioning the general unlawfulness of unilateral drilling in a disputed area is that the Tribunal made its pronouncements in the context of the gathering of core samples from the disputed continental shelf.²⁶⁸ The strength of this line of argument is questionable in view of the fact that the Tribunal seems to have focused on the impact an act of drilling would have on the marine environment as well on another claimant's rights, which is unlikely to be very different when other types of drilling activity would be involved.²⁶⁹ However, the argument might be entertained that some measure of drilling, in the context of marine scientific research, would be excluded from its reach.

Turning to the unrestrained collection of information on the composition of the seabed: is it permissible for one claimant State to engage in work, seeking to clarify the potential of oil and gas resources that are possibly contained in a disputed area, through the taking of a seismic survey that would perceivably place it in an advantageous position in relation to another claimant? On the basis of the two relevant cases, that is *Guyana v. Suriname* and the *Aegean Sea Continental Shelf* case, seismic work is essentially the only petroleum related activity that may unilaterally commence in maritime areas of overlapping claims.²⁷⁰ In the latter, Greece exerted great efforts, which however failed, to convince the ICJ that the resulting discrepancy in knowledge level following from the Turkish seismic actions brought with it a range of detrimental effects that warranted the giving of interim protection—one of which was that a tender inviting the petroleum industry to bid for exploration rights would be likely to be received lukewarmly.²⁷¹ Despite

266. See *supra* Part V.B.2.

267. Roughton, *supra* note 3, at 398.

268. *Guyana/Suriname*, 30 R.I.A.A. ¶ 433.

269. See *supra* Part V.B.2.

270. See *supra* Part V.B.1.

271. *Aegean Sea Continental Shelf*, 1976 I.C.J. 5–6; *Aegean Sea Continental Shelf (Greece v. Turk.)*, 1976 I.C.J. Oral Arguments 79, 108 (Sept. 11, 1976) (argument of Professor O'Connell in support of the Request for Interim Measures of Protection by the Government of Greece).

these fairly ringing endorsements of the fact that there is a rule that permits claimants to engage in seismic surveying in a disputed area, there might, nonetheless, be some room for caution in applying this position *mutatis mutandis* to every perceivable locality where there are existing overlapping maritime boundary claims.²⁷² Particularly, the uniqueness of each maritime boundary situation, which is determined and guided by its own intricacies, and the possible subsequent stirring up of different degrees of dispute when one claimant acts unilaterally within a particular situation, is one consideration that might argue against the universal definition of seismic work as a permissible unilateral activity in disputed areas.

In comparing the two situations (i.e., where an oil and gas field straddles a maritime boundary or where it is found in an area of overlapping claims) that were at the center of analysis in this contribution, and the extent to which the rule of capture forms the guiding principle in these situations, there is some measure of discrepancy between them. Understood in the classic sense, as being concerned with exploitation, the rule of capture seems to have no validity within a disputed maritime area: international law prohibits a State from unilaterally embarking on conduct that involves starting to appropriate or appropriating oil and gas resources of the undelimited continental shelf.

Regarding oil and gas resources that straddle a boundary at sea, the status of the rule of capture has not been valued equally; there is no outright dismissal of its validity by an international court or tribunal, and opinions expressed by commentators vary. A further criticism of the existence of a rule of capture in delimited maritime areas is that there is something highly unsatisfactory in the thought that on the one hand, in undelimited maritime areas, the state of international law is such that it prohibits unilateral development of an oil and gas field, not least for the irreversible effects it causes to the sovereign rights of claimant States and the exerted impact on the marine environment. To then, subsequently, on the other hand argue that once such a boundary been established and there is a straddling reservoir a rule of capture would, nonetheless, be activated no matter the extent of detriment to these same sovereign rights, particularly loss of revenue, another coastal States would suffer were one coastal State to maximize production from its own side of the

272. Van Logchem, *supra* note 14, at 185–97.

line. Therefore, as some commentators have suggested, it is prudent to abandon, due to its lack of convincingness, the division in treating an oil and gas field that straddles a maritime boundary or where it is located in a disputed area differently. Instead, the focus should be on the oil and gas deposit as such, in which all claimant States have a shared interest as well as certain sovereign rights.²⁷³

273. See, e.g., Ong, *supra* note 48, at 775.