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Defining areas for joint development in disputed waters

Clive Schofield
University of Wollongong, clives@uow.edu.au

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Abstract
In recent years maritime joint development zones have emerged as an important means to overcome deadlock in relation to maritime jurisdictional claims. A key consideration in the negotiation and establishment of maritime joint development arrangements is the definition of the precise geographical area within which joint development is to proceed. This chapter reviews joint development practice with particular reference to the spatial definition of joint zones.

This experience can be broadly divided into joint zones that have been agreed in addition to a maritime boundary line and those that have been defined in the absence of a boundary line, which have proved a more popular alternative. With respect to the latter type of joint zone, many such joint areas are determined by the limits of competing maritime claims and thus involve the joint development of disputed waters.

The definition of joint zones in this manner is often a sensitive and challenging issue. This is the case because, without prejudice clauses notwithstanding, the use of unilateral maritime claims as the limits of a joint area to an extent validates such claims, giving them practical impact and thereby a degree of endorsement and legitimacy which they may not, in fact, warrant. This has led to reluctance on the part of some States to, in a sense, recognise and accept what are regarded as excessive claims through their use in the definition of the limits of a maritime joint development zone. This chapter explores past experience of how this delicate issue has been dealt with. Some observations drawn from this inventory and assessment of past practice are offered, together with some preliminary considerations on the applicability of these observations to overlapping claims in the South China Sea.

Keywords
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DEFINING AREAS FOR JOINT DEVELOPMENT IN DISPUTED WATERS

PROFESSOR CLIVE SCHOFIELD

Recent Development of the South China Sea Dispute and

Prospects of Joint Development Regime

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Defining Areas for Joint Development in Disputed Waters

Professor Clive Schofield
Director of Research
Australian Centre for Ocean Resources and Security (ANCORS)
University of Wollongong

Defining Areas for Joint Development in Disputed Waters

Clive Schofield*

Abstract
The paper reviews practice in terms of maritime joint development arrangements with particular reference to the spatial definition of the zone within which the cooperative regime will apply. This is frequently a critical consideration in facilitating agreement on joint development yet it is also a sensitive and potentially problematic one. The latter part of the paper provides some observations on key lessons learned together with preliminary thoughts on applicability to areas of overlapping maritime claims in the South China Sea.

1. Introduction

In recent years maritime joint development zones have emerged as an important means to overcome deadlock in relation to maritime jurisdictional claims. A key consideration in the negotiation and establishment of maritime joint development arrangements is the definition of the precise geographical area within which joint development is to proceed. This paper reviews joint development practice with particular reference to the spatial definition of joint zones.

This experience can be can be broadly divided into joint zones which have been agreed in addition to a maritime boundary line, and those that have been defined in the absence of a boundary line, which have proved a more popular alternative. With respect to the latter type of joint zone, many such joint areas are determined by the limits of competing maritime claims and thus disputed waters.

The definition of joint zones in this manner is often a sensitive and challenging issue. This is the case because, without prejudice clauses notwithstanding, the use of unilateral maritime claims as the limits of a joint area to an extent validates such claims, giving them practical impact and thereby a degree of endorsement and legitimacy which they may not, in fact warrant. This has led to reluctance on the part of some States to, in a sense, recognise and accept what are regarded as excessive claims through their use in the definition of a joint development zone. The paper explores past experience of how this delicate issue has been dealt with in the past. Some observations drawn from this inventory and assessment of past practice are offered, together with some preliminary consideration on the applicability of these considerations to overlapping claims in the South China Sea.

* Professor and Director of Research, Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong, Wollongong, NSW 2522, Australia. E-mail: clives@uow.edu.au. Professor Schofield is the recipient of an Australian Research Council Future Fellowship (FT100100990).

2. The Rationale for Joint Development

Where overlapping claims exist and the parties have reached a deadlock in maritime boundary delimitation negotiations, the alternative of a shared rather than unilateral management regime may prove attractive. Although a number of these cooperative mechanisms predate the United Nations Convention on the Law of the Sea (LOSC),[1] such joint maritime zones have predominantly been concluded since the Convention was opened for signature. The key provisions within LOSC in this respect are Articles 74(3) and 83(3) which provide, in identical terms that:

> 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.[2]

State practice in maritime joint development, reviewed below, can be broadly divided into joint zones which have been agreed in addition to a maritime boundary line, and those that have been defined in the absence of a boundary line, which have proved a more popular alternative. Six examples of joint zones concluded in conjunction with the delimitation of a maritime boundary line and sixteen where no boundary line has yet been drawn are reviewed below.[3]

3. The Spatial Definition of Joint Development Zones[4]

3.1 Joint development agreements in addition to a boundary line

A number of joint zones have been defined in conjunction with the delimitation of a maritime boundary between the parties concerned. In these circumstances, the joint zone may act as a catalyst for reaching agreement on the delimitation line, for example providing both parties with some rights in the maritime area of interest and therefore countering the potential drawback of defining a boundary line and subsequently discovering that the bulk, or all, of the resources in the area subject to overlapping

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1 United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397 (hereinafter LOSC).

2 LOSC, Articles 74(3) and 83(3).

3 Brief outlines of the key attributes of each of the maritime joint developments are provided here. Greater emphasis has, however, been devoted to those joint zones in the Asia-Pacific region, reflecting the focus of the present volume. It is worth noting that the joint development arrangements reviewed do not comprise an exhaustive list of all such mechanisms. For example, a number of joint arrangements that are now defunct, such as that which existed offshore the, now divided, Kuwait-Saudi Arabia Neutral Zone, are not considered here.

4 The review of joint development practice contained herein draws on the author's earlier published work though with a spatial emphasis, notably, Schofield, C.H. (2009) 'Blurring the Lines: Maritime Joint Development and the Cooperative Management of Ocean Resources', *Issues in Legal Scholarship*, Berkeley Electronic Press, Vol.8, no.1 (Frontier Issues in Ocean Law: Marine Resources, Maritime Boundaries, and the Law of the Sea), Article 3.

maritime claims falls on the 'wrong side of the line' as it were. It can be observed that many of the joint zones so defined bear little relation to the original area of overlapping maritime claims.

Bahrain–Saudi Arabia

Signed in January 1958, this agreement represents the first maritime joint development agreement worldwide.[5] In a sense it is not a joint zone at all in that it is wholly located on one side (Saudi Arabia's) of the agreed boundary. This is in distinction to other joint zones defined in conjunction with maritime boundary agreements which tend to straddle the agreed line. The Bahrain-Saudi arrangement is, however, joint in the sense that the revenue derived from the oil resources exploited within the defined area are shared between the parties.[6] The zone defined is hexagonal and encompasses the Fasht Abu-Sa'fah oilfield which had previously been contested between the parties.

Argentina–Uruguay

Argentina and Uruguay established a "common fishing zone" as well as a joint Administrative Commission in conjunction with the delimitation of their boundary in the estuary of the Rio de la Plata [River Plate] and seawards into the South Atlantic ocean.[7] The common fishing zone is defined as the area seaward of the parties' 12nm territorial sea limits. The outer limit of the joint area is expansive as it is described "by two arcs of circles with radii of 200 nautical miles whose centre points are, respectively, Punta del Este (Uruguay) and Punta del Cabo San Antonio (Argentina)."[8] While being primarily concerned with fishing issues, the joint Administrative Commission is also tasked with promoting joint scientific research, particularly that relating to marine living resources and the prevention and elimination of pollution as well as aiding navigation.[9]

Australia–Papua New Guinea

Australia and Papua New Guinea (PNG) reached a particularly innovative agreement relating to the Torres Strait in 1978.[10] The agreement delimits separate continental

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5 *Bahrain- Saudi Arabia Boundary Agreement Dated 22 February 1959* (signed 22 February 1958, entered into force 26 February 1958). Treaty text available at <www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/BHR-SAU1958BA.PDF>. See also, Charney, J.I. and Alexander, L.M. (1993) (eds.), *International Maritime Boundaries*, Vol.II (Dordrecht: Martinus Nijhoff), 1489-1497.

6 The agreement provides that the exploitation of the oil resources in this area will be carried out in the way chosen by the King of Saudi Arabia "on the condition that he grants to the Kingdom of Bahrain one half of the net revenue accruing to the Government of Saudi Arabia and arising from this exploitation." *Ibid*., Second Clause.

7 *Agreement between the Government of Argentina and the Government of Urugay Relating to the Delimitation of the River Plate and the Maritime Boundary Between Argentina and Uruguay*, (signed 19 November 1973, entered into force 12 February 1974). Treaty text available at: <www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/URY-ARG1973MB.PDF>. See also, Charney and Alexander, *International Maritime Boundaries*, Vol.II: 757-766.

8 *Ibid*., Article 73.

9 *Ibid*., Article 66.

10 *Treaty between Australia and the Independent State of Papua New Guinea concerning sovereignty and maritime boundaries in the area between the two countries, including the area known as Torres Strait, and related matters*, 18 December 1978 (entry into force, 15 February 1985). Treaty text available at [1985] ATS 4 and

shelf and fisheries boundaries. This recognised the geographically complex character of the Torres Strait including numerous islands. Many of these islands, including ones in close proximity to the mainland coast of PNG are under Australian sovereignty. In order to achieve an equitable outcome, a continental shelf boundary was defined centrally in the Strait, midway between the mainland coasts of both States, while a fisheries boundary, passing close to the PNG coast, was defined around the Australian islands in the northern part of the Torres Strait. Thus, in this area PNG seabed underlies Australian water column.

Rather than creating a joint development zone as such, the Torres Strait treaty instead established a broad protected zone encompassing the Torres Strait. The objective of the protected zone is to safeguard traditional fishing activities and the free movement of traditional inhabitants, to regulate commercial fisheries and to protect the marine environment. In keeping with these objectives a moratorium on oil and gas exploration within the protected zone was agreed. The Torres Strait Treaty provided for the establishment of a joint advisory council was set up to promote cooperation,[11] and also provides a for detailed regulatory regime which is designed to protect traditional rights while promoting cooperative development of commercial fisheries.[12]

Iceland–Norway (Jan Mayen Island)

In 1980 Iceland and Norway reached agreement on a maritime boundary relating to the EEZ, to be based on 200nm arcs measured from basepoints on Iceland.[13] In addition to the boundary line a joint zone was also be established. A particularly notable feature of this 45,470km^2 joint zone is that while in common with many other joint zones established in addition to a boundary line it straddles the agreed boundary, the Iceland-Norway zone does so in uneven fashion.[14] Overall, 61 per cent of the joint zone lies on the Norwegian side and 39 per cent on the Icelandic side of the boundary line. While each State is entitled to 25 per cent of revenues deriving from the exploitation of oil and gas on the other side of boundary,[15] hydrocarbon fields straddling the joint zone and Icelandic waters are considered wholly Icelandic.[16] This boundary agreement and joint zone were negotiated been the parties on the basis of the recommendations of a Conciliation Commission. The uneven distribution of the joint zone across the delimitation line, in favour of Iceland, took the disparities between Iceland and Jan

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<www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/AUS-PNG1978TS.PDF>. See also, Charney and Alexander, *International Maritime Boundaries* 929-975.

11 See, for example, Kaye, S.B. *Australia's Maritime Boundaries*, 2nd edition, Wollongong Papers on Maritime Policy, 12, (Wollongong: Centre for Maritime Policy, 2001): 104-105; and Renton, D. (1995) 'The Torres Strait Treaty after 15 Years: Some Observations from a Papua New Guinean Perspective', pp.171-180 in Crawford, J.R. and Rothwell, D.R. (eds) *The Law of the Sea in the Asian Pacific Region*, Dordrecht: Martinus Nijhoff.

12 Article 23 of the treaty, revenues are split 75:25 according to whose jurisdictional sector of the zone the fish are caught in.

13 *Agreement between Norway and Iceland on Fishery and Continental Shelf Questions*, 28 May 1980 (entered into force 13 June 1980). Treaty text available at <www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/isl-nor1980fcs.pdf>.

14 *Agreement on the Continental Shelf between Iceland and Jan Mayen, 22 October 1981* (entered into force 2 June 1982). Treaty text available at <www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/ISL-NOR1981CS.PDF>. See also, Charney and Alexander, 1993: 1755-1765.

15 Agreement on the Continental Shelf between Iceland and Jan Mayen, Articles 5 and 6.

16 *Ibid*., Article 8.

Mayen, particularly in terms of population, into account. Additionally, Iceland's lack of mineral resources as compared with Norway was a factor in the recommendations of the Conciliation Commission.[17]

Denmark–United Kingdom

In May 1999 Denmark and the United Kingdom concluded a maritime boundary agreement for the area between the Faroe Islands and Scotland.[18] While seabed and water column boundaries are coincident for most of the line, in the central part of the boundary a "Special Area" was defined, providing for joint fisheries jurisdiction. The Special Area covers an area of 2,337nm^2 or approximately 8,000 km^2.[19] The Special Zone straddles the continental shelf boundary but does so in unequal manner, the majority of it being located on the UK side of the seabed boundary line. This reflected the overwhelming dependence of the Faroe Islands economy on fisheries.[20] Within the Special Zone each party has the right to continue to conduct fishery operations, including the issuing of licences, and the parties also agreed not to interdict fishing vessels operating in the joint zone under a licence issued by the other party.[21] Denmark and UK also agreed to take "all possible steps to prevent and eliminate pollution" resulting from their offshore activities, including exploration activities related to seabed hydrocarbon resources,[22] and also agreed to cooperate on measures to protect the marine environment.[23]

China–Vietnam

China and Vietnam concluded a maritime boundary agreement in the Gulf of Tonkin (Beibu Gulf to China and Bac Bo Gulf to Vietnam) in December 2000 and simultaneously created no less than three joint fishing zones.[24] In conjunction with the boundary treaty was an *Agreement on Fishery Cooperation in the Gulf of Tonkin* was concluded. Through the fisheries cooperation agreement a joint Common Fishery Zone of approximately 30,000km^2 (around 8,747nm^2) was defined which straddles the maritime delimitation line and extends 30.5nm on either side of it, from the 20ºN parallel of latitude to the closing line of the Gulf.[25] Additionally, a transitional arrangement zone north of 20ºN was established where the parties aim to gradually reduce the number of fishing vessels

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17 Charney and Alexander, *International Maritime Boundaries*, 1757.

18 *Agreement between the Government of the Kingdom of Denmark together with the Home Government of the Faroe Islands on the one hand and the Government of the United Kingdom of Great Britain and Northern Ireland on the other hand relating to the Maritime Delimitation in the area between the Faroe Islands and the United Kingdom*, 18 May 1999 (entered into force 21 July 1999) Treaty text available at <www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/DNK-GBR1999MD.PDF>. See also Charney, J.I. and Smith, R.W. (2002) (eds.), *International Maritime Boundaries*, Vol. IV (Dordrecht: Martinus Nijhoff), 2955-2977.

19 *Ibid*.

20 *Ibid*.: 2959-2960.

21 Denmark-UK Agreement, Article 5.

22 *Ibid*., Article 6.

23 *Ibid*.: Article 7.

24 *Agreement between the People's Republic of China and the Socialist Republic of Viet Nam on the Delimitation of the Territorial Sea, the Exclusive Economic Zone and Continental Shelf in Beibu Bay/Gulf of Tonkin* (25 December 2000) and Agreement between the People's Republic of China and the Socialist Republic of Viet Nam on Fisheries Cooperation for the Gulf of Tonkin. For treaty text, see <www.un.org/Depts/los/legislationandtreaties.htm>. See also Colson, D.A. and Smith, R.W. (2005) (eds) *International Maritime Boundaries*, Vol. V (Leiden: Martinus Nijhoff), 3745-3758.

25 Keyuan, Z., "The Sino-Vietnamese Agreement on Maritime Boundary Delimitation in the Gulf of Tonkin", *Ocean Development and International Law*, 36 (2005): 13-24, at 16.

operating. A buffer zone either side of the parties' territorial sea boundary in the immediate vicinity of the terminus of the land boundary on the coast in the north of the Gulf was defined in order to minimise disputes involving for small fishing vessels that may have trespassed across the boundary line.[26] While the setting of fishing quotas and the number of fishing vessels allowed in the Common Fishery Zone is established jointly through a Joint Fisheries Committee, it is important to note that enforcement is on a conducted on the basis of coastal State authority, that is, on the basis of which side of the defined boundary line the activity takes place, rather than on the basis of flag state control.

3.2 Joint development agreements in lieu of a boundary agreement

Cambodia-Vietnam
Cambodia and Vietnam reached agreement in 1982 on the establishment of a joint area of "historic waters" in the Gulf of Thailand.[27] The primary purpose of the agreement was the resolution of the parties' dispute over several islands, sovereignty over which had previously been contested. Rather than reflecting the area of overlapping claims, therefore, the oblong-shaped joint historic waters area created through the 1982 agreement is instead framed by, but does not include, the formerly disputed islands.

The joint historic waters area extends seawards from the mainland coastlines of the two countries out to the vicinity of the Poulo Wei group of islands, which were specified as Cambodian, and the Tho Chu (Poulo Panjang) islands which according to the agreement were determined to be Vietnamese, as was the large island of Phu Quoc. No maritime boundary was defined through the joint area, though it was stated that negotiations on this issue would take place "at a suitable time."[28] Additionally, the agreement served to integrate Cambodia and Vietnam's straight baseline systems which meet at "Point O", whose precise location is unspecified, on the south-western limit of the historic waters area.[29]

While not a joint arrangement overtly targeted at the cooperative development or management of marine resources or activities, the agreement does include some maritime joint development provisions. For example, Cambodia and Vietnam undertook to undertake the exploitation of natural resources within the joint historic waters area on the basis of "common agreement", and to carry out joint surveillance and patrols in the joint area.[30] The fishing activities of both parties were specified as being set to continue within the joint historic waters area "according to the habits that have existed so far." Cambodia and Vietnam's claim to the establishment of this unconventional joint historic waters area, and to joining their respective straight baseline systems at an

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[26] *Ibid*.: 3749. See also, Thao, N.H., "Maritime Delimitation and Fishery Cooperation in the Tonkin Gulf", *Ocean Development and International Law*, 36 (2005): 25-44.

[27] *Agreement on Historic Waters of Vietnam and Kampuchea*, 7 July 1982 (entered into force 7 July 1982). See, Charney, J.I. and Alexander, L.M. (1998) (eds), *International Maritime Boundaries*, Vol.III (Dordrecht: Martinus Nijhoff), 2364-2365.

[28] *Agreement on Historic Waters of Vietnam and Kampuchea*, Article 2.

[29] *Ibid*., Article 3.

[30] *Ibid*.

apparently 'floating' point out to sea proved controversial and resulted in international protests, notably from Thailand[31] and the United States.[32]

Japan–Korea

Although Japan and the Republic of Korea were able to delimit a maritime boundary between their respective territories in the southern part of the Sea of Japan (East Sea to Korea) and through the Korea Strait,[33] they adopted radically different positions on the applicable principles and methods of delimitation applicable to the southern part of their potential continental shelf boundary extending into the East China Sea. On the one hand, Japan favoured delimitation on the basis of an equidistance or median line. On the other, Korea asserted that the boundary line should be influenced by geophysical factors on the basis of natural prolongation arguments. These contrasting approaches resulted in a broad area of overlapping maritime claims.[34]

In order to overcome the deadlock in maritime boundary delimitation negotiations, in 1974 Japan and Korea reached agreement on joint development with respect to the broad area (29,092 nm^2) encompassed by their overlapping claims to maritime jurisdiction in the East China Sea.[35] The Japan-Korea joint development zone shelved the issue of boundary delimitation[36] and is designed to facilitate the exploration for and exploitation of seabed oil and gas resources over a 50 year period although, to date, without success.[37] The joint zone is divided into sub-zones (originally nine, subsequently reduced to six) and innovatively side-stepped concerns over the application of laws and regulations

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31 Thailand protested against the agreement in a note to the UN Secretary General dated 9 December 1985. See, *United Nations Law of the Sea Bulletin*, 7 (April 1986): 111.

32 In a note to the UN Secretary General dated 17 June 1987, the United States government protested against the Cambodian-Vietnamese agreement, stating that the claim was made known internationally "less than five years ago" and that as a result there was "insufficient" evidence to demonstrate the required effective exercise of authority for such a historic claim. Additionally, the US note stated that "the United States has not acquiesced in this claim, nor can the community of States be said to have done so." See, *United Nations Law of the Sea Bulletin*, 10 (November 1987): 23. See also Roach, J.A. and Smith, R.W. (1996) *United States Responses to Excessive Maritime Claims*, 2nd edition (The Hague: Martinus Nijhoff Publishers): 39-40; and Schofield, C.H. and Tan-Mullins, M. (2008) 'Claims, Conflicts and Cooperation in the Gulf of Thailand', *Ocean Yearbook*, 22, (Leiden/Boston: Martinus Nijhoff): 91-92.

33 *Agreement between Japan and the Republic of Korea Concerning the Establishment of Boundary in the Northern Part of the Continental Shelf Adjacent to the Two Countries*, 30 January 1974 (entered into force 22 June 1978). Treaty text available at <http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/jap-kor1974north.tif>. See also Charney and Alexander, *International Maritime Boundaries*, 1057-1089.

34 The parties dispute over sovereignty concerning the islands of Dok-do (to Korea) or Takeshima (to Japan) also frustrated progress towards the delimitation of a maritime boundary further north.

35 *Agreement between Japan and the Republic of Korea Concerning Joint Development of the Southern Part of the Continental Shelf Adjacent to the Two Countries*, 30 January 1974 (entered into force 22 June 1978). Treaty text available at <http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/ja-kor1974south.tif>.

36 Article 28 of the Japan-Korea treaty states that: "Nothing in the Agreement shall be regarded as determining the question of sovereign rights over all or any portion of the Joint Development Zone or as prejudicing the positions of the respective Parties with respect to the delimitation of the continental shelf."

37 Noting that the agreement entered into force in 1978. The agreement may be extended if no maritime boundary is delimited, although it can be terminated by either side with three years' notice (Japan-Korea treaty, Article 31(2)).

within each sub-zone by establishing an 'operator formula' approach.[38] The costs incurred by the parties in the exploration and exploitation phases are to be shared equally between the concessionaires of the two countries, as are the proceeds from the natural resources extracted in a sub-zone. The parties also established a Joint Commission[39] in order to facilitate liaison between the governments concerned, though they stopped short of setting up a more powerful joint authority. Had Japan and Korea in fact discovered oil and gas within the joint zone, a potentially major additional complication and disincentive to development is the fact that a third party, China, also claims parts of the joint zone and has refused to recognise its creation.[40]

Saudi Arabia–Sudan

The joint zone defined between the Saudi Arabia and Sudan in 1974[41] stands apart from other maritime joint development zones as its area of application is not defined by a series of geographic coordinates joined by lines, nor by the overlap in competing maritime claims. Instead, the joint zone applies to that part of the central part of the Red Sea between the two countries respective coasts which is greater than 1,000 metres in depth. The northern and southern limits of the joint zone have not, however, been defined. Although the agreement covers all natural resources, its primary objective was to allow for the joint exploration for and exploitation of the seabed mineral resources, notably metalliferous sediments rich in heavy metal such as copper, manganese, zinc, iron and silver, known to exist in the Red Sea deeps, especially off Sudan.[42] Although a Saudi-Sudanese Red Sea Commission was established in 1975, it is understood that little exploration activity has in fact taken place and no commercial discoveries or developments have eventuated.[43]

Australia–Indonesia

Australia's seabed boundaries with Indonesia in the Timor Sea of 1972 were negotiated prior to Indonesia's 1975 occupation and subsequent annexation of East Timor, creating a discontinuity in the line which became commonly referred to as the 'Timor Gap'. Following Indonesia's invasion of East Timor and Canberra's subsequent acceptance of Indonesian sovereignty over East Timor, boundary negotiations for the Timor Gap were initiated in order to join up the separate sections of their existing maritime boundary agreements to the east and west. However, largely as a consequence of evolutions in the international law of ocean boundary making, Indonesia refused to simply 'close the gap' on the same basis as its earlier agreements with Australia. As a result no boundary

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38 That is, within each sub-zone, concessionaires, authorised by the each of the parties, have an undivided interest and one operator is chosen from among the two concessionaires to conduct activities in a particular sub-zone. Thus, Japanese law applies to a Japanese operator within a particular sub-zone and Korean law similarly applies to a Korean operator within another sub-zone. See Article 19 of the Japan-Korea treaty.

39 *Ibid*., Article 24.

40 Charney and Alexander, *International Maritime Boundaries*, 1058.

41 *Agreement Relating to the Joint Exploration of the Natural Resources of the Seabed and Subsoil of the Red Sea in the Common Zone*, 16 May 1974.

42 Prescott, J.R.V. and Schofield, C.H. (2005) *The Maritime Political Boundaries of the World* (Leiden/Boston: Martinus Nijhoff Publishers), 488.

43 Dzurek, D.J., *Parting the Red Sea: Boundaries, Offshore Resources and Transit*, Maritime Briefing, 3, 2, (Durham: International Boundaries Research Unit, 2001): 16.

agreement could be reached regarding the Timor Gap which was, instead, filled with a joint development zone – the Timor Gap Zone of Cooperation.[44]

The Timor Gap cooperative arrangement covers an area of 60,500km^2 and is in large part based on the overlapping claims of the parties. The joint zone was, however, divided into three sub-zones – a large central, 'sovereignty neutral', Zone A where revenues were to be shared on a 50:50 basis, and two smaller 'national' zones, Zone B to the south where sharing was on the ratio 90:10 in favour of Australia and a narrow Zone C, where the ratio was 90:10 in favour of Indonesia.

The treaty itself was signed in December 1989 with additional detailed regulations being added in 1991, and was widely regarded as the most sophisticated and comprehensive maritime joint development zone in the world.[45] The initial duration of the agreement was to be 40 years, to be followed by successive terms of 20 years. The Timor Gap Treaty is, however, no longer in force having been replaced by agreements concluded between Australia and East Timor (see below).

Malaysia–Thailand

Although Malaysia and Thailand were able to agree on the alignment of their territorial sea boundary without undue difficulty,[46] they were only able to delimit their continental shelf boundary out to a point approximately 29nm offshore.[47] Seaward of that point, a dispute over the validity of a small Thai island as a basepoint led to a roughly wedge-shaped overlap in continental shelf claims. This overlap in maritime claims provided the basis for the Thai-Malaysian joint development area (JDA).

The agreement on joint development between Thailand and Malaysia took a considerable time to reach fruition, however. Although a Memorandum of Understanding (MoU) was concluded between the two States in February 1979 that established broad principles for the joint development of "non-living-resources, in particular petroleum",[48] a further agreement to deal with complex issues such as the

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44 *Treaty between Australia and the Republic of Indonesia on the Zone of Cooperation in an Area between the Indonesian Province of East Timor and Northern Australia*, 11 December 1989. For treaty text, see <www.un.org/Depts/los/legislationandtreaties.htm>. See also, Charney and Alexander, *International Maritime Boundaries*, 1245-1328.

45 Indeed, the Timor Gap Treaty, which together with its annexed model production sharing agreement and Petroleum Mining Code runs to in excess of 100 pages.

46 *Treaty between the Kingdom of Thailand and Malaysia Relating to the Delimitation of the Territorial Seas of the Two Countries*, 24 October 1979 (entered into force 15 July 1982). Treaty text available at <www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/THA-MYS1979TS.PDF>. See also, Charney and Alexander, *International Maritime Boundaries*, 1091-1098.

47 *Memorandum of Understanding between the Kingdom of Thailand and Malaysia on Delimitation of the Continental Shelf Boundary between the Two Countries in the Gulf of Thailand*, 24 October 1979 (entered into force 15 July 1982). Treaty text available at <www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/THA-MYS1979CS.PDF>. See also Charney and Alexander, *International Maritime Boundaries*,1099-1123.

48 *Memorandum of Understanding between the Kingdom of Thailand and Malaysia on the Establishment of a Joint Authority for the Exploitation of the Resources of the Sea-Bed in a Defined Area of the Continental Shelf of the Two Countries in the Gulf of Thailand*, done on 21 February 1979. Treaty text available at <http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/THA-MYS1979CS.PDF>. See also, Charney and Alexander, 1993: 1107-1123.

detailed regulations to govern activities in the JDA and on the establishment of a Joint Authority was not signed until May 1990.[49]

It is worth noting that Vietnam also claims the most seaward part of the Thai-Malaysian JDA. However, in the Thai-Vietnamese maritime boundary treaty of 7 August 1997 there exists a specific indication that the parties, together with Malaysia "shall enter into negotiations…in order to settle the tripartite overlapping continental shelf claim area."[50] At the time of writing a tripartite agreement arising from these negotiations had yet to emerge.[51]

Malaysia–Vietnam

The agreement concluded by Malaysia and Vietnam in 1992 establishes a long, narrow "Defined Area" in the southeastern part of the Gulf of Thailand for the exploration for and exploitation of seabed petroleum deposits.[52] The Defined Area corresponds with the two States' overlapping claims to continental shelf and was prompted by oil discoveries made by Malaysian contractors within the disputed zone. The joint arrangement was established for 40 years, subject to reviews and extensions and with costs and benefits to be shared equally. The agreement offers a framework under which nominees of the two governments can enter into agreements for exploring and exploiting petroleum reserves once the area has been delimited. The joint mechanism is therefore a relatively straightforward commercial arrangement whereby each country's rights are managed by their respective national oil companies (Petronas of Malaysia and PetroVietnam of Vietnam).[53]

Colombia–Jamaica

The 1993 *Maritime Delimitation Treaty between Colombia and Jamaica*[54] established a "Joint Regime Area" (JRA) to the west of an agreed maritime boundary. The JRA was

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49 *Agreement between the Government of Malaysia and the Government of the Kingdom of Thailand on the Constitution and Other Matters Relating to the Establishment of the Malaysia-Thailand Joint Authority.* See Charney and Alexander, *International Maritime Boundaries*, 1111-1123. On the reasons for the long haiutus between the MoU and implementing agreement see, Schofield, C.H., "Unlocking the Seabed Resources of the Gulf of Thailand," *Contemporary Southeast Asia* 29, no. 2 (August 2007): 286-308, at 292-293; and, Schofield, C.H. and Tan-Mullins, M. (2008) 'Claims, Conflicts and Cooperation in the Gulf of Thailand', *Ocean Yearbook*, 22, (Leiden/Boston: Martinus Nijhoff): 75-116, at 108-111.

50 *Agreement between the Government of the Kingdom of Thailand and the Government of the Socialist Republic of Vietnam on the Delimitation of the Maritime Boundaries between the Two Countries in the Gulf of Thailand*, 9 August 1997 (entered into force 28 February 1998), Article 2. Treaty text available at <http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/THA-VNM1997MB.PDF>. See also, Charney and Smith, *International Maritime Boundaries*, 2,692-2,694.

51 Schofield, 'Unlocking the Seabed Resources of the Gulf of Thailand', 300 and Schofield and Tan-Mullins, 'Claims, Conflicts and Cooperation' 112-113.

52 *Memorandum of Understanding between Malaysia and the Socialist Republic of Vietnam for the Exploration and Exploitation of Petroleum in a Defined Area of the Continental Shelf Involving the Two Countries* was signed on 5 June 1992 and entered into force on 4 June 1993. See Charney and Alexander, *International Maritime Boundaries*, 2335–2344.

53 The two governments do, however, retain a right of veto with regard to any agreements their national oil companies might reach. In practical terms, as Petronas had already issued production-sharing contracts for the overlapping area, PetroVietnam agreed to a commercial arrangement whereby these existing contracts would remain valid and petroleum operations would be directly managed by Petronas.

54 The treaty was signed on 12 November 1993 (entered into force 14 March 1994). Treaty text available at <www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/JAM-COL1993MD.PDF>. See also Charney and Alexander, *International Maritime Boundaries*, 2179-2204.

defined as being a "zone of joint management, control, exploration and exploitation of the living and non-living resources…pending the determination of the jurisdictional limits of each Party." Within this area, however, two 12 nm-radius areas around the Columbian Seranilla Bank and Bajo Nuevo Cays were excluded. The total area of the JRA is approximately 4,500 nm^2.[55] Within the JRA the parties agreed that they could explore for and exploit the natural resources therein, whether living or non-living, establish and use artificial islands, installations and structures, conduct marine scientific research, and take action to protect and preserve the marine environment and conserve living resources.[56] With regard to activities relating to the exploration and exploitation of non-living resources, as well as those in respect of marine scientific research and on the protection and preservation of the marine environment, however, the parties are to carry out activities "on a joint basis" reached through agreement between them.[57] Colombia and Jamaica furthermore agreed that within the JRA each State would have jurisdiction over its own nationals and vessels flying its own flag and they agreed to adopt measures to ensure that the national and vessels of third States would comply with any regulations and measures the parties were to adopt.[58] The parties also agreed to establish a Joint Commission to "elaborate the modalities for the implementation and carrying out of" activities within the JRA.[59]

55 Charney and Alexander, *International Maritime Boundaries*, 2181.
56 Colombia-Jamaica Treaty, Article 3(2).
57 *Ibid*., Article 3(3).
58 *Ibid*., Article 3(5 and 6)
59 *Ibid*., Article 4.

Argentina–United Kingdom

Despite the long-standing sovereignty dispute between Argentina and the United Kingdom (UK) over the Falkland Islands (Islas Malvinas to Argentina), South Georgia and the South Sandwich Islands, the parties have, following their 1982 conflict, sought to improve bilateral relations and this has yielded some maritime cooperative initiatives in the South Atlantic. On 2 November 1990 the two countries issued a Joint Statement on the Conservation of Fisheries,[60] established a South Atlantic Fisheries Commission, and announced the cooperation of the two governments over the conservation of fish stocks between 45º and 60º south. Additionally, on 27 September 1995 Argentina and the UK issued a Joint Declaration on Cooperation over Offshore Activities in the South West Atlantic.[61] The Joint Declaration, "coordinated activities" in relation to a "sedimentary structure" in a defined to the southwest of the disputed islands within which the two governments would cooperate to encourage the exploration and production of hydrocarbons. The area in question has an area of approximately 20,000km^2 (around 5,831nm^2). Unfortunately, although these joint arrangements still exist in principle, at the time of writing bilateral relations had deteriorated markedly and no active cooperation was taking place.

Nigeria–São Tomé and Príncipe

Nigeria and Sao Tomé and Príncipe concluded a treaty in 2001 establishing a joint zone between them.[62] The joint zone is the largest such arrangement established to date with an area of 34,540km^2 (around 10,070nm^2). The geographical scope of the joint zone in large part reflects the parties overlapping claims – the zones northwestern limit being based on an equidistance line between opposite coasts, its northeastern limit being defined by an equidistance line with neighbouring Equatorial Guinea, its southwestern limit by 200nm arcs from Nigeria while the southeastern limit approximately reflects a one-third effect line for Sao Tomé and Príncipe versus Nigeria.[63] The objective of the joint arrangement is to exploit and share the natural resources of the joint zone, especially seabed hydrocarbons. Revenues to be derived from the exploitation of the resources within the joint zone are to be shared on the basis of 60 per cent to Nigeria and 40 per cent to Sao Tomé and Príncipe.[64] The agreement establishes a Joint Ministerial Council and a Joint Authority (since renamed the Joint Development Authority or JDA).

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60 See, Churchill, R.R., "Falkland Islands – Maritime Jurisdiction and Cooperative Arrangements with Argentina", Current Legal Developments, *International and Comparative Law Quarterly*, 46 (1997): 463-477, at 463-467.

61 *Ibid*.: 468-471.

62 *Treaty between the Federal Republic of Nigeria and the Democratic Republic of Sao Tomé and Príncipe on the Joint Development of Petroleum and other Resources, in Respect of Areas of the Exclusive Economic Zone of the Two States*, 21 February 2001 (entered into force 16 January 2003), Article 4. For treaty text see: <www.un.org/Depts/los/legislationandtreaties.htm>. See also, Colson and Smith, *International Maritime Boundaries*, 3638-3682.

63 Nigeria had earlier claimed a nil effect line for Sao Tomé and Príncipe but negotiations appear to have led to some moderation of this position.

64 Nigeria-Sao Tomé and Príncipe Treaty, Articles 3 and 18 and Colson and Smith, *International Maritime Boundaries*,3638. See also, Groves, H., "Offshore Oil and Gas Resources: Economics, Politics and the Rule of Law in the Nigeria-Sao Tomé e Príncipe Joint Development Zone", *Journal of International Affairs* 59, 1 (Fall/Winter 2005): 81-96.

Australia–Timor Leste (East Timor) in the Timor Sea

Prior to achieving independence, the East Timorese government in waiting, together with the United Nations Transitional Authority for East Timor (UNTAET) had made it clear that East Timor would not be bound by any of the agreements related to East Timor's territory entered into by Jakarta – including the Timor Gap joint development zone mentioned above. In order to safeguard ongoing seabed resource developments in the Timor Sea, a new agreement, Timor Sea Treaty (TST) was signed between Australia and East Timor on the day that East Timor became independent.[65] The TST established a Joint Petroleum Development Area (JPDA), which coincides with the central part of the old Australia-Indonesia joint zone (Zone A). Whereas in the past revenues from Zone A had been shared between Australia and Indonesia on an equal basis, under the TST revenues from seabed resources exploited within the JPDA are split 90:10 in East Timor's favour.

Complications then arose, especially in relation to the Greater Sunrise complex of fields straddling the northeastern limit of the JPDA.[66] Unitization agreements between Australia and East Timor were signed but East Timor opted to delay ratification.[67] It became clear that according to the unitization agreements that 20.1 per cent of Greater Sunrise lies within the JPDA with the remaining 79.9 per cent falling on what Australia regards as its side of the line. Consequently, East Timor was set to benefit from only marginally over 18 per cent of the proceeds from Greater Sunrise (90 per cent share of the 20.1 per cent of the field falling within the JPDA). East Timor subsequently argued that it was not bound by the dimensions of the 'Timor Gap' defined by previous Australia-Indonesia boundary agreements and claimed areas adjacent to the JPDA. The delimitation negotiations that ensued proved complex and contentious.[68]

Ultimately, however, Australia and East Timor were able to overcome the barriers to agreement and the *Treaty on Certain Maritime Arrangements in the Timor Sea* (CMATS) was signed in 2006.[69] The treaty establishes a further interim resource sharing

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65 *Timor Sea Treaty* (Dili, 20 May 2002, entry into force 2 April 2003). For treaty text, see <www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/AUS-TLS2002TST.PDF>

66 C.H. Schofield, 'Dividing the Resources of the Timor Sea: A Matter of Life and Death for East Timor', *Contemporary Southeast Asia*, 27(2) (August 2005), 255-280.

67 This agreement is often referred to as the Greater Sunrise International Unitisation Agreement, or Sunrise IUA. *Memorandum of Understanding between the Government of the Democratic Republic of East Timor and the Government of Australia concerning an International Unitization Agreement for the Greater Sunrise field*, Dili, 20 May 2002. Source: UN , <www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/AUS-TLS2002SUN.PDF>, and, *Agreement between the Government of Australia and the Government of the Democratic Republic of Timor-Leste relating to the Unitization of the Sunrise and Troubadour fields*, Dili, 6 March 2003. Source: UN, <www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/AUS-TLS2003UNI.PDF>.

68 See, for example, Schofield, C.H. (2007) 'Minding the Gap: The Australia – East Timor Treaty on Certain Maritime Arrangements in the Timor Sea', *International Journal of Marine and Coastal Law*, Volume 22, No.2: 189-234.

69 CMATS was signed by Australian Foreign Minister Alexander Downer and East Timor's then Minister for Foreign Affairs and Cooperation, Dr José Ramos-Horta, in the presence of their respective Prime Ministers, John Howard and Mari Alkatiri. See, Transcript of the Prime Minister, the Hon John Howard, MP, Joint Press Conference, Philip Street, Sydney, 12 January 2006

agreement whose area of application is coincident with the 'Unit Area' defined in the previously negotiated unitization agreement and therefore encompasses the Greater Sunrise complex of fields. The agreement provides for the equal sharing of revenues deriving from the upstream exploitation of petroleum resources within this zone.[70] The CMATS is without prejudice to either side's claims to maritime delimitation[71] and includes stringent requirements for a moratorium on claims while the treaty is in force.[72] The parties agreed to defer their claims to maritime jurisdiction and boundaries in the Timor Sea for up to 50 years.[73] The treaty will, however, lapse if either a development plan for Greater Sunrise has not been approved within six years or production has not started within 10 years from the agreement entering into force.[74] In this context it is worth noting that downstream activities can also lead to further contention and disputes have arisen between the parties with respect to the destination of any pipeline onshore and thus location of downstream processing infrastructure. CMATS also provides for East Timorese jurisdiction over the water column above the JPDA[75] and serves to establish a bilateral joint Maritime Commission to 'constitute a focal point for bilateral consultations with regard to maritime matters of interest to the Parties.'[76]

Joint fishing zones in East Asia

Three joint fisheries agreements, which emerged following the ratification of LOSC, declaration of EEZs by China, Japan and the Republic of Korea and resulting overlapping maritime claims, may be considered together. The agreements in question are: the China-Japan agreement of 11 November 1997 relating to part of the East China Sea; the Japan-Korea agreement of January 2000 in respect of parts of both the East China Sea and Sea of Japan (East Sea to Korea); and, the China-Korea of 30 June 2001 dealing with parts of the Yellow Sea.[77] These joint agreements cover only part of China, Korea and Japan's substantial areas of overlapping maritime claims. They are of a provisional nature and are without prejudice to final maritime boundary delimitation. These joint

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<www.pm.gov.au/news/interviews/Interview1744.html>. For a copy of the treaty text see: <www.laohamutuk.org/Oil/Boundary/CMATS per cent20text.htm>; or, Schofield, 'Minding the Gap'.

70 Consequently, rather than an 18.1 per cent share in Greater Sunrise as would have been the case under the earlier accords, East Timor stands to gain a full 50 per cent share in the revenues deriving from the development of those fields..

71 CMATS, Article 2.

72 The parties are restricted from the direct or indirect initiation of, or participation in, any proceedings relating to maritime boundary delimitation in the Timor Sea before 'any court, tribunal or other dispute resolution mechanism' or even raising such issues in 'any international organisation'. CMATS, Article 4.

73 Or, 'until the date five years after the exploitation' of the area covered by the treaty ceases, 'whichever occurs earlier' CMATS, Article 12.

74 CMATS, Article 12.

75 CMATS, Article 8 refers to a line which is defined by means of a list of coordinates of latitude and longitude, referred to World Geodetic System 84 and joined by geodesic lines, contained in a treaty Annex. The line so defined is consistent with the southern boundary of the JPDA with Australia to exercise jurisdiction to the south and East Timor to the north.

76 CMATS, Article 9. For a more in depth analysis of the CMATS Treaty see, Schofield, C.H., "Minding the Gap: The Australia – East Timor Treaty on Certain Maritime Arrangements in the Timor Sea", *International Journal of Marine and Coastal Law*, 22, 2 (2007): 189-234.

77 The China – Japan agreement was signed on 11 November 1997 and entered into force on 1 June 2000; the South Korea – Japan agreement entered into force in January 1999; and the China – South Korea agreement entered into force on 30 June 2001. See S.P. Kim, 'The UN Convention on the Law of the Sea and New Fisheries Agreements in North East Asia', *Marine Policy*, 27 (2003), 97-109.

arrangements have drawbacks, notably that they provide for enforcement on a flag State basis with minimal joint enforcement envisaged and include no provisions for enforcement against third parties (such as, for example, Taiwan which is a significant fishing entity in the waters concerned). Furthermore, they encompass only part of the picture and substantial "current fishing patterns" zones where fishing is at the least uncoordinated and at the worst, largely unregulated. Nonetheless, they represent a positive step towards cooperative, joint solutions to shared problems and a potentially useful application of maritime joint development, frequently focussed on seabed hydrocarbons, concepts to living resources.[78]

Cambodia – Thailand

On 18 June 2001, Cambodia and Thailand signed a *Memorandum of Understanding regarding the Area of their Overlapping Claims to the Continental Shelf* in the Gulf of Thailand.[79] The area covered by the MoU appears to coincide with the parties' large overlapping claims area – an area believed to be highly prospective with respect to seabed hydrocarbon resources.[80] Cambodia and Thailand have been engaged in negotiations over this area of overlap since the early 1990s without realising an agreement. Indeed, the MoU signed in 2001 has been aptly described as merely "an agreement-to-agree."[81] It does, however, mark potentially significant progress as it separates delimitation of a lateral maritime boundary in the vicinity of the terminus of the land boundary on the coast in the north, from joint development of the area of overlapping claims towards the centre of the Gulf, south of the 11° north parallel of latitude. The negotiations towards delimitation and joint development are to be conducted "simultaneously" and represent "an indivisible package."[82] Although the MoU mentioned "accelerated negotiation",[83] no agreement has yet been realized. Indeed, in 2009 the Thai Government reportedly intended to unilaterally revoke the MOU,[84] although this does not appear to have formally occurred. Nonetheless, the conclusion of the MoU and the ensuing negotiations must be considered a substantial positive step forward towards resolution of this longstanding maritime dispute.

China – Japan

78 See, Schofield, C.H. (2005) "Cooperative Mechanisms and Maritime Security in Areas of Overlapping Claims to Maritime Jurisdiction", pp.99-115 in Cozens, P. and Mossop, J. (eds) *Capacity Building for Maritime Security Cooperation in the Asia-Pacific*, (Wellington: Centre for Strategic Studies: New Zealand).

79 Colson and Smith, *International Maritime Boundaries*, 3743–3744.

80 It can be inferred that the area of overlap between the parties has been reduced following the resolution of Cambodia and Vietnam's sovereignty dispute over islands. Uncertainty does, however, persist in relation to the southern limit of the area covered by the MoU. See McDorman, T.L., "Maritime Boundary Delimitation in the Gulf of Thailand," *Hogaku Shimpo* [The Chuo Law Review], CIX, no. 5-6 (March 2003): 253-280, at 278-279. See also Schofield, 2007: 301-303 and Schofield and Tan-Mullins, 2008: 113-115.

81 McDorman, 'Maritime Boundary Delimitation in the Gulf of Thailand', 277.

82 Cambodia-Thailand MoU, Article 2.

83 *Ibid*.

84 This was due in part to sporadic clashes along their land border in the vicinity of the Preah Vihear Temple as well as Cambodia's appointment of ousted Thai Prime Minister Thaksin Shinawatra as an economic adviser.

It was reported on 16 June 2008 that China and Japan had reached "principled consensus" on cooperation in the East China Sea.[85] The broad area of overlap between the parties' claim in East China Sea results from their radically different views on the method of maritime delimitation to be applied – Japan basing its claim on equidistance and China on natural prolongation principles which would see a boundary line coincident with the Okinawa Trough, leaving much of the East China Sea on the Chinese side of the line. As a "first step" towards making the East China Sea a "sea of peace cooperation and friendship", China and Japan agreed to joint development of a specified block of seabed. The joint area to be explored "under the principle of mutual benefit", straddles the median line between the parties' coasts and has an area of approximately 2,700km^2.[86] Additionally, the two countries agreed to allow a Japanese corporation to invest in the Chinese entity already engaged in development activities in relation to the Chunxiao gas field (called the Shirakaba gas field by Japan), located on the Chinese side of but in close proximity to the theoretical median line. The June 2008 agreement makes it clear that cooperation will be entered into "in the transitional period prior to delimitation without prejudicing their respective legal positions."[87] Further negotiations were anticipated regarding converting this agreement in principle into a formal treaty and with regard to other disputed gas fields in close proximity to the median line in the East China Sea. Progress towards such a formal agreement on implementing the joint development arrangement has been slow, however.[88]

4. Observations and Opportunities

What commonalities and lessons can be gleaned from the above inventory and assessment of State practice in maritime joint development? Further, what does this practice suggest with respect to the potential application of maritime joint development in the South China Sea?

With respect to joint zones defined in addition to maritime boundary agreements joint zones, the spatial dimensions of such joint arrangements are generally not confined or defined by the limits of overlapping maritime claims. The delimitation of a boundary line in essence appears to have freed negotiators of joint zones defined in conjunction with them of the limitations of national maritime claims. Concerning joint zones in lieu of boundary agreements, however, there is a much stronger tendency to define the dimensions of the joint zone according to the limits of areas of overlapping claims. As noted in the introduction to the paper, this is often a sensitive and challenging issue.

The key reason why this is the case is that to accept a unilateral maritime claims as the limits of a joint area invests those unilateral claims with a degree of practical impact and thus legitimacy. This is particularly problematic where such unilateral maritime claims

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85 "China, Japan reach principled consensus on East China Sea issue", Xinhua News Agency, 18 June 2008 <www.chinadaily.com.cn/china/2008-06/18/content_6774860.htm>.

86 *Ibid*. See also, "Japan, China Agree on Investment, Joint Gas Project in E. China Sea", Kyodo New Agency, 18 June 2008 <http://home.kyodo.co.jp/modules/fstStory/index.php?storyid=384582>.

87 *Ibid*.

88 See, for example, Schofield, C.H. and Townsend-Gault, I. (2011) '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', *Marine Policy*, Vol.35: 25-33.

are excessive in character. Indeed, if the scope of maritime joint development areas is to be defined on the basis of unilateral maritime claims, this provides a strong rationale for coastal States to advance maximalist and manifestly excessive claims to maritime jurisdiction.

A notable example in this context is provided by the overlapping claims area between Cambodia and Thailand in the Gulf of Thailand. Cambodia's lateral maritime claim is a clearly excessive one, proceeding from the terminus of the land boundary on the coast straight over a Thai island before proceeding to the central part of the Gulf.[89] Given the excessive nature of Cambodia's claim line, it was inconceivable that Thailand could accept it as the limit of a maritime joint development area. Thailand and Cambodia were able to side-step this issue in the negotiation of their 2001 MoU by separating the northern part of their overlapping area, where delimitation discussions would proceed, from the southern part of the overlap where joint development was the objective of negotiations.

An analogous example, though not so extreme, is provided by the Thai-Malaysian experience in defining their joint development area, also in the Gulf of Thailand. As noted above, the key reason for an overlap in the maritime claims of the parties related to the status of a particular Thai offshore feature and its potential capacity to generate maritime claims and thus its role in maritime delimitation. Thailand claimed that the small islet in question, Ko Losin, is an island capable of generating continental shelf and exclusive economic zone rights and consequently represented a valid basepoint for maritime delimitation with Malaysia. Malaysia in contrast argued that Ko Losin is no more than a "rock" within the meaning of LOSC Article 121(3) and as such is only capable of generating claims to a 12nm breadth territorial sea and contiguous zones.[90] As Ko Losin is a mere 1.5 m (5 ft) high and steep-to all round it would seem that Malaysia had a point. Arguably this represents a case of Thailand seeking to maximise its maritime claims with a view to securing the best outcome, either in maritime delimitation negotiations or through widening the geographical scope of the area subject to joint development with the latter proving to be the outcome.

These examples demonstrate how unilateral maritime claims, may not, in fact, necessarily provide an appropriate basis for the definition of a joint development zone. In this context it is also worth noting that States are under an obligation to formulate their maritime claims in "good faith" under both customary international law and LOSC.[91] Further, maritime claims need to be clearly defined if they are to be used for this purpose.

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89 Cambodia's 1972 continental shelf claim uses the Franco-Siamese Treaty of 23 March 1907 as a justification to define its claims in this manner. However, the 1907 treaty was concerned with the allocation of certain islands and territories and is predominantly concerned with the land boundary. However, in the 1907 Treaty referred to the use of the summit of Thailand's Koh Kut island as a reference point for the position of the terminus of the land boundary on the coast. Cambodia has made use of this reference as a basis to project its continental shelf claim from the terminus of the land boundary on the coast in a line projecting westwards in line with the summit of Koh Kut – a highly dubious interpretation to say the least.

90 Charney and Alexander, *International Maritime Boundaries*, Vol. I, 1101. See also, Schofield and Tan-Mullins, 'Claims, Conflict and Cooperation'.

91 See, LOSC Article 300.

It can also be remarked that an important purpose of establishing maritime joint development areas is to provide jurisdictional certainty and thus a sound basis for offshore resource development and management activities. In the case of the development of seabed hydrocarbons for instance, exploration and exploitation costs run in the billions of dollars and activities stretch over decades so providing a secure investment framework to international oil companies is crucial. In this context, the existence of a claim on the part of a third State to a bilaterally defined maritime cooperative arrangement can be regarded as a major complication. For example, as noted above, while Japan and Korea reached agreement on their joint zone, China objected. These objections had a direct bearing on US oil companies ceasing their operations in the joint zone. Similarly, in the Thai-Malaysian case, Vietnam's claims to part of the Thai-Malaysian joint development area has led to no activities being undertaken within that part of the joint zone though there are prospects that a trilateral arrangement may emerge for this area.

Arguably the key factors mentioned above that provide a basis for the spatial definition of maritime joint development zones are presently lacking in the South China Sea and this serves as a significant impediment to the definition of joint development zones therein. That is, a number of maritime jurisdictional claims are excessive in character and it is therefore questionable whether they have been made in good faith. Moreover, the basis and meaning of some of the claims made in the South China Sea, notably but not exclusively China's 'nine dashed line' claim line, are vague and ill-defined. Consequently, maritime claims in the South China Sea have yet to be articulated in a clear enough fashion, as well as justified in international law, such that maritime joint development arrangements can be properly defined. Additionally, the multitude of overlapping maritime claims for which the South China Sea is renowned not only adds considerable complexity to the equation but raises ample potential concerns over third-party claims that are likely to undermine efforts to enter into joint development arrangements on a bilateral basis.

Taken together, these factors severely undermine the prospects for the definition of maritime joint development areas within the South China Sea generally. That said, hope of applying joint development arrangements to the South China Sea remain. It is notable, for example, that the South China Sea, and particularly its Gulf of Thailand extension, already hosts multiple joint development zones, especially towards its periphery. There may well be some scope for bilateral or trilateral joint development arrangements to be pursued in selected areas therefore. Equally, there may be scope for multilateral joint development arrangements to be defined once though the political will to achieve this would need to be considerable and there is little evidence of this existing at present. The clearer definition of claims to maritime jurisdiction and their definition in good faith in keeping with LOSC remain critical ingredients to the successful realisation of maritime joint development in the South China Sea.