INCORPORATION OF ENVIRONMENTAL LAW PRINCIPLES IN THE BOUNDARY TREATIES OF THE STRAITS OF MALACCA AND SINGAPORE

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INTRODUCTION

This article argues that the boundary treaties, concluded by Malaysia, Singapore, Indonesia and Thailand on the Straits of Malacca and Singapore need to be re-examined by the states concerned in order to incorporate significant environmental considerations given the current importance of international environmental law principles and the provisions of the 1982 Law of the Sea (1982 LOS) Convention. The treaties are divided into colonial and post-colonial, for ease of reference to inter-temporal law and deal with the five maritime zones, namely the territorial sea, contiguous zone, continental shelf, exclusive economic zone and the high seas. Principles of international environmental law play a significant role in the sustainable use of the seas. Where any state engages in a pattern of unsustainable use of the seas or its resources even though such activity falls within the maritime jurisdiction of that state, that state may be said to be in violation of international environmental principles and of the 1982 LOS Convention.

This article urges the states of Malaysia, Indonesia, Singapore and Thailand to re-visit these sites and re-examine the boundary treaties, taking into consideration various environmental law principles that affect the living
and non-living resources even though they fall within their respective maritime sovereignty, sovereign rights, jurisdiction or control. The well-being of one state may produce deleterious consequences in other/s. What these problems are, if any, are not discussed in this article. While proof of problems is a sound basis for legal action, the new precautionary principle of international environmental law states that we need not wait for scientific uncertainty before legal redress. For example, some questions that may be raised under these treaties would include: would a project in one coastal state produce choking effects in its neighbour’s maritime zones; or change tidal or seabed profiles; or adversely affect navigational capabilities of ships using coastal ports or the thalweg. It is equally important for states undertaking maritime works and expansion to consider the width and depth of the seas concerned. The presence of alternative routes and coral reefs and other aspects of marine ecology cannot be ignored. Whether new artificial islands are built or existing islands are enlarged, the interest of the international shipping, their right of passage and cabotage interests of neighbouring states has to be taken into consideration. Where there is an increase in size of islands, coastal states need to bear in mind that consequently their baselines will have to change and that their territorial seas and attendant maritime zones will be pushed further out to sea. This could affect existing maritime boundaries and treaties. Maritime states have to be mindful of the fact that the seabed and subsoil of the continental shelf are the inherent rights of coastal states. Any attempt at dredging these could amount to theft under national law. Coastal nations undertaking maritime development works also have to be alerted on the possibility that their work may threaten the safety or security of one or more coastal states. All the concerned states are required to study the environmental impact assessment report on any activity that impinges on the sustainable use and development of the seas. This has to be done irrespective of the presence or absence of municipal laws on environmental impact assessment requirements. To enable the coastal states to see that there is no environmental infringement of the seas concerned, data on the above issues should be deposited with the International Maritime Organisation or the regional bureau of the states concerned. Economic considerations are vital too but are not discussed in this article.

Since some of the treaties were concluded under general principles of international law and others on the basis of the 1958 Territorial Sea Convention (TSC) and the 1958 Convention on the Continental Shelf (CSC), references are made to these conventions and to the principles of maritime delimitation. This article discusses four aspects as follows: (1) principles of maritime delimitation; (2) colonial treaties; (3) post-colonial treaties; and (4) principles of international environmental and the marine pollution provisions of the 1982 LOS Convention.
PRINCIPLES OF MARITIME DELIMITATION

Delimitation principles of general international law

There are two sets of delimitation principles used in the demarcation of the above maritime zones. One set of principles is used for the delimitation of the outer margin of the territorial sea, the contiguous zone, the continental shelf and the exclusive economic zone of the coastal state. The other set of principles are used for the delimitation of maritime zones between adjacent and opposite states. The principles of delimitation of the zones between adjacent and opposite states in international law are found in the 1958 Geneva Convention on the Territorial Sea and Contiguous Zone (1958 TSC), the 1958 Geneva Convention on the Continental Shelf (1958 CSC), the 1982 LOSC and in international custom and judicial decisions.

Sharma, on the technique of delimitation, wrote that at traditional international law the low-water mark was the starting point from which the territorial sea was measured. In the Fisheries Case (UK v Norway) (1951) ICJ Reports at 116 the question was whether the straight baseline method applied by Norway to determine the outer limit of a portion of its territorial sea, was valid in international law. While the Court upheld the traditional technique of employing the low-water mark for measuring the breadth of the territorial sea, it had to decide whether the relevant low-water mark was that of the mainland or of the skjaergaard (a Norwegian term embracing numerous islands, islets, rocks and reefs). The Court found that the skjaergaard were just an extension of the Norwegian mainland and based on this finding ruled that it was the outer line of the skjaergaard which should be taken into account in the delimitation of the Norwegian territorial waters. The Court explained that this solution was “dictated by geographical realities” and was influenced, in addition by “economic interests peculiar to a region, the reality and importance of which are clearly evidenced by a long usage”

Professor Sang-Myon Rhee in his article entitled “Sea Boundary Delimitation Between States Before World War II”, examines the early efforts to establish delimitation principles. The early states relied on the principles of equality and proportionality to delimit their rivers and lakes. Once the concept of the coastal sea had gained momentum, territorial seas also began to be delimited. States’ concerns about the establishment of the outer limit of the seas and their delimitation were resolved by using various principles namely, the median line, the thalweg, perpendicular lines, lateral land boundary, historic title or other vested interests, equitable delimitation, latitudes, longitudes, or some other azimuth perpendicular to the general direction of the coast.

The median line principle is based on the notion that the sovereignty of each state extends to the middle of the maritime space. The median line principle later developed into the equidistance principle. It does not always
produce an equal division of the maritime space to be delimited between states. To attain equal division, equitable considerations have also been associated with the equidistance principle.9

Thalweg is a German word, which means the centre of the deepest or most navigable channel. The idea was to divide the navigable channel equally between the states such that the states had equal access to the channel for purposes of navigation. If the deepest channel was not navigable then states could use the next most suitable channel for navigation and divide that channel so as to distribute the navigable waters equally.10 Under the thalweg principle what mattered was not the surface area of water but the ability to navigate along the thalweg where the larger and heavier vessels could navigate.11 The thalweg principle was first adopted for the Rhine by the Peace Treaty of Luneville of 9 February 1801.12 But the thalweg principle was not applicable to the delimitation of the territorial seas of either adjacent or opposite states. At best, it can be applied to bays and estuaries where the thalweg is identifiable.13

The other options are to use the land boundary or the perpendicular line, - that is, the straight line perpendicular to the coast where the dry land boundary abuts the sea.14 A straight line perpendicular to the coast means a lateral territorial sea boundary, which is perpendicular to the general direction of the coast. In the Grisbardana Case15 the Commission shifted the boundary from twenty degrees latitude to nineteen degrees latitude in the interest of equitable considerations. After World War I, states began to take a keen interest in the delimitation of their territorial seas. In 1936, S.W. Boggs finally developed the equidistance method, which consisted of a line every point of which is equidistant from the nearest point or points on shore.

**Delimitation of Maritime Zones under the 1958 TSC and 1958 CSC, and the 1982 LOSC**

Of the five maritime zones the coastal state has inherent rights to a territorial sea and a continental shelf. The other zones, including archipelagic status of archipelagic waters, must be claimed by states while the high seas being res extra commercium cannot be claimed. Every outer maritime limit must be established from a territorial sea baseline system. The starting point in maritime delimitation begins with a baseline from which the territorial sea of a state is drawn.

The 1958 TSC and 1958 CSC established for the first time, certain principles of delimitation of the territorial seas and the continental shelf. Article 3 of the 1958 TSC states that the normal baseline for measuring the territorial sea of a coastal state is the low-water line along the coast. There is an exception to this rule “in localities where the coast line of the coastal state is deeply indented and cut into, or if there is fringe of islands along the
coast in its immediate vicinity" (Article 4) in which case "the method of straight baselines joining appropriate points may be employed" Article 4 (4). Article 4 (4) takes into account the ratio of the ICJ in the Anglo-Norwegian Fisheries Case: "economic interests peculiar to the region concerned, the reality and importance of which are clearly evidenced by a long usage". The outer limit of the territorial sea is defined in Article 6 as "the line every point of which is at a distance from the nearest point of the baseline equal to the breadth of the territorial sea". These provisions were also incorporated in Articles 4 - 7 of the 1982 LOS Convention. The 1958 TSC and the 1982 LOS Convention defines an island as a naturally formed area of land surrounded by water, which is above water at high tide (Articles 10 & 12 respectively). The territorial sea of an island is measured in the same way.

There were no principles of delimitation of the exclusive economic zone before the advent of the 1982 LOS Convention. The 1958 TSC did not contain any principle of delimitation of an archipelago as the First United Nations Conference on the Law of the Sea (UNCLOS I) could not resolve the issue of an archipelago at that Conference.

The 1982 LOS Convention also deals with reefs (Article 6), internal waters (Article 8), mouths of rivers (Article 9), bays (Article 10), ports (Article 11) roadsteads (Article 12), and low tide elevations (Article 13). Article 14 allows a coastal state to determine its baseline by any approved method.16

Articles 3 to 16 of the 1982 LOSC provide for several baseline systems enumerated below. Article 3 provides that every state has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles. The outer limit of the territorial sea, according to Article 4, is the line every point of which is at a distance from the nearest point of the baseline equal to the breadth of the territorial sea. The normal baseline, which keeps shifting all along, based on Article 5, for measuring the breadth of the territorial sea is the low-water line along the coast as marked on large-scale charts officially recognized by the coastal state. The specific rules on reefs is provided in Article 6 which states that in the case of islands situated on atolls or of islands having fringing reefs, the baseline for measuring the breadth of the territorial sea is the seaward low-water line of the reef, as shown by the appropriate symbol on charts officially recognized by the coastal state.

A country may use either the straight baseline system or the low-water normal baseline. However, case law points out that the straight baseline system is to be preferred by countries having a highly indented coastline as outlined in Article 7.
Delimitation between opposite and adjacent coastal states

Where the coasts of two States are opposite or adjacent to each other, neither of the two States is entitled, failing agreement between them to the contrary, to extend its territorial sea beyond the median line every point of which is equidistant from the nearest points on the baselines from which the breadth of the territorial seas of each of the two States is measured. The above provision does not apply, however, where it is necessary by reason of historic title or other special circumstances to delimit the territorial seas of the two States in a way, which is at variance therewith. The line of delimitation between the territorial seas of these two coastal states shall be marked on large scale charts officially recognised by the coastal states. This provision is in pari materia with Article 15 of the 1982 LOS Convention.

Delimitation of a Mid - Ocean Archipelago

Neither the 1958 TSC nor the 1958 CSC contains any provision on mid-ocean archipelagoes. The concept of an archipelago was accorded formal recognition in Article 48, Part IV of the 1982 LOS Convention. Article 48 permits archipelagic states to have a territorial sea of their own which has to be measured in accordance with the provisions of Article 47, joining the outer most points of the outermost islands and drying reefs of the archipelago.

The outer limit of a mid-ocean archipelago is drawn like the Norwegian fjords using the system of straight baselines. This is provided for in Article 47(1) of the 1982 LOSC. Shearer states that this is the link to international customary law for archipelagoes. Article 51 of the 1982 LOS Convention compels an archipelagic state to:

- respect existing agreements
- recognise traditional fishing rights
- recognise other legitimate activities of the immediately adjacent neighbouring states in certain areas falling within archipelagic waters
- respect existing submarine cables laid by other states and
- permit the maintenance and replacement of such cables upon receiving due notice of their location and the intention to repair or replace them.

Only States Parties to the 1982 LOS Convention would be bound by its provisions unless they represent international custom based on the decision in North Sea Continental Shelf Cases (Federal Republic of Germany v Denmark; Federal Republic of Germany v The Netherlands) (1969) ICJ Reports 3 Para 72. Are mid-ocean archipelagos based on international customary law? Following the North Sea Continental Shelf
Cases Shearer argues that an international custom must be of a fundamentally norm creating character such as could be regarded as forming a general rule of law. The above may be regulated by bilateral agreements between the two concerned states. Such respect, recognition or permission does not prejudice the legal status of the archipelagic waters, of the air space over the archipelagic waters and of their bed and sub soil. Shearer finds that the measurements in Article 47 on the measurements of archipelagic baselines of the 1982 LOS Convention are “idiosyncratic” with no basis in history or doctrine except in the context of a package deal. Therefore, the regimes in Articles 53 and 54 will only apply to parties to the 1982 LOS Convention.18

Delimitation of the Continental Shelf

The geological continental shelf commences at the point where the land meets the sea; the legal continental shelf begins at the point on the sea-bed where the territorial waters of a coastal state end. Similarly, the geological continental shelf and the legal continental shelf end differently. U.L.F.Dieter Klemm states that “the outer limits of the continental shelf are its limits vis-a-vis the ocean or in terms of the 1982 United Nations Convention on The Law of the Sea vis-a-vis The International Sea Bed Area.19 They are not the dividing lines between the states with adjacent or opposite coasts”.

In addition, the International Court of Justice (ICJ) and other arbitration commissions gave their judgments in the North Sea Continental Shelf Cases20, the Anglo-French Continental Shelf Cases21, the Tunisia /Libya Case22, the Libya/Malta Case23, the Jan Mayen Case24 and the Gulf of Maine Case25. Many of these cases were decided before the 1982 LOSC was finalised and some before it came into force. The controversy in this branch of the Law of the Sea is whether the 1958 CSC provisions on the delimitation of the continental shelf have slipped into international customary law or whether the cases referred to have done so.

The geological continental shelf, acquired a legal identity only in the last fifty years or so in the form of Article 1(a) of the 1958 CSC:

(a) ...the sea-bed and sub-soil of the submarine areas adjacent to the coast but outside the area of the territorial sea, to a depth of 200 metres, or beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources of the said areas;

(b) ...the sea-bed and sub-soil of similar areas adjacent to the coasts of islands.

The 1982 LOS Convention modified this definition of the continental shelf as to its extent and outer limits. Article 76(1) states:

The continental shelf of a coastal State comprises the sea-bed and sub-soil of the sub-marine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer
edge of the continental margin, or to a distance of 200 nms from the baselines from which the breadth of the territorial sea is measured where the outer edge of the continental margin does not extend up to that distance.

Where the outer edge of the continental margin extends beyond 200 nms, Article 76(5) of the 1982 LOS Convention provides:

The fixed points comprising the line of the outer limits of the continental shelf on the sea-bed, drawn in accordance with paragraph 4(a)(i) and (ii) either shall not exceed 350 nms from the baselines from which the breadth of the territorial sea is measured or shall not exceed 100 nms from the 2,500 metres isobath, which is a line connecting the depth of 2500 metres.

Article 121 of the 1982 LOS Convention reiterates that islands also generate their own territorial sea, contiguous zone, exclusive economic zone and continental shelf and this has to be determined in accordance with the provisions of this Convention. The formula for delimitation of the continental shelf and the Exclusive Economic Zone are found in Articles 74 and 83 of the 1982 LOS Convention.

**Delimitation of the Exclusive Economic Zone (EEZ)**

The legal delimitation of the exclusive economic zone is of fairly recent origin. It has its beginnings in the concept of the exclusive fishing zone. Before this was introduced into the debates of United Nations Conference on the Law Of the Sea III (UNCLOS III), many states had already claimed an exclusive fishing zone or an exclusive economic zone. Many states have claimed a comprehensive exclusive economic zone since this confers many sovereign rights on a coastal state. An exclusive economic zone is regarded as *sui generis* in nature: unlike the territorial sea and the continental shelf, which are vested rights of the coastal state, the EEZ must be claimed. Brown is of the view that the EEZ is not a zone *ab initio* and *ipso jure* and that there is a need to claim such a zone.

**BASELINES USED BY MALAYSIA, INDONESIA, SINGAPORE AND THAILAND**

For the purpose of boundary determinations, Malaysia and Thailand seem to have adopted the straight baseline segments for a territorial sea baseline as Thailand decreed a system of straight baselines on 12 June 1970 and Malaysia decreed the same on 2 August 1969 for the purpose of boundary determination. Malaysian coastal waters are demarcated on the 1979 Map Showing the Territorial Waters and Continental Shelf Boundaries of Malaysia but the baselines are not specified. Indonesia adopted the archipelagic baseline system on 18 February 1960. Forbes is of the view that in the vicinity of the Straits of Malacca and Singapore a system of
straight baselines is unnecessary in the light of an established continental shelf boundary and associated agreement with reference to navigation in the strait. In the region of the Straits, the coastal states are unable to claim a full economic zone.

**COLONIAL TREATIES**

The colonial treaties namely, the Anglo-Siamese Treaty of 1909 and the Johore-Singapore Treaty of 1927 demarcate the boundary between Peninsular Malaya and Thailand in the Sungei Golok (River Golok) and between Johore, a state in Peninsular Malaya and Singapore in the Strait of Johore respectively. The principles of delimitation used were the thalweg, the mid-stream boundary line and the centre line of the main deep water channel (which is the same as the thalweg).

**The Anglo-Siamese Treaty of 1909**

On 10 March 1909, Great Britain and Siam signed a bilateral treaty in Bangkok- as between two independent and sovereign equals - regarding the Cession and Boundaries of the Siamese Malay States of Kedah, Perlis, Kelantan and Terengganu. Ratifications were undertaken in London on 9 July 1909. The Treaty, inter alia, settled the issue of navigation. By this Treaty, the Siamese transferred to Great Britain the rights of suzerainty, protection, administration and control, which they had possessed over Kedah, Perlis, Kelantan and Terengganu. A British Advisor was then appointed to each of those four states. Johore too agreed to receive a General Advisor in 1914. These five states remained outside the Federation until after the Second World War. The bilateral treaty is significant for it expressly contains a clause to the effect that should a change in the frontier boundary be necessary, then no such rectification can be made to the detriment of Siam. Section 1 of Annex I to the Treaty of 10 March 1909 states:

The frontiers between the territories of His Majesty the King of Siam and the territory over which His suzerain rights have by the present Treaty been transferred to His Majesty the King of Great Britain and Ireland are as follows:

Commencing from the most seaward point of the northern bank of the estuary of the Perlis River and thence north to the range of hills which is the water shed between the Perlis River on the one side and the Pujoh River on the other; then following the watershed formed by the said range of hills until it reaches the main watershed or dividing line between those rivers which flow into the Gulf of Siam on the one side and into the Indian Ocean on the other;
following this main watershed so as to pass the sources of the Sungai Patani, Sungai Telubin, and Sungai Perak, to a point which is the source of the Sungei Pergau; then leaving the main watershed and going along the watershed separating the waters of the Sungei Pergau from the Sungei Telubin, to the hill called Bukit Jeli or the source of the main stream of the Sungei Golok. Thence the frontier follows the thalweg of the main stream of the Sungei Golok to the sea at a place called Kuala Tabar.

...Subjects of each of the parties may navigate the whole of the waters of the Sungei Golok and its effluents.

Effects of the Treaty of 1909

The Anglo-Siamese Treaty of 1909 provided for a commission composed of Siamese and British officials charged with delimitation of the new frontier to be appointed within six months of the date of ratification of the Treaty.

Boundary Brief

The Malaysia-Thailand boundary extends for 314 miles from the Strait of Malacca on the west to the Gulf of Siam on the east. The demarcated boundary follows water divides in the west and center and the Golok River in the east. The boundary Protocol to the Anglo-Siamese Treaty of 1909, which is still in force, has two significant features. The first is the reference to a ‘rough sketch’ of the boundary, the second, that no rectification of the boundary is to be made to the prejudice of the Siamese Government. That a map annexed to a Treaty is conclusive of its contents is established in the Temple case, a case involving Thailand as well. Based upon the Temple case, the map to the Anglo-Siamese Treaty should also, therefore, be conclusive of its demarcations unless contracted to the contrary as found in the provisions of the 1927 Treaty between Great Britain and Johore concerning the Johore Strait. Article (i) of the 1927 Treaty provides inter alia, Should, however, the map owing to alterations in the channels, etc, appear at any time to conflict with the text of this Agreement, the text shall in all cases prevail.

The second significant point relates to the fact that no rectification of the boundary is to be made to the prejudice of the Siamese Government. Such a protection clause gives an impression that the treaties were concluded between two unequal parties. On the other hand, customary international law provides that states may conclude treaties and such conclusion of treaties is said to be valuable evidence of statehood and sovereignty as laid down in the S S Wimbledon case.
What is the position of treaties like the Anglo-Siamese Treaty of 1909, which was concluded before the rule stated in Article 52 of the Vienna Convention on the Law of Treaties\textsuperscript{38} was established?\textsuperscript{39} The Soviet doctrine of 'unequal' treaties, not found in Article 52 may be cited here:

The principle that international treaties must be observed does not extend to treaties which are imposed by force, and which are unequal in character...

Equal treaties are treaties concluded on the basis of the equality of the parties, unequal treaties are those, which do not fulfill this elementary requirement. Unequal treaties are not legally binding...

Treaties must be based upon the sovereign equality of the contracting parties.\textsuperscript{40}

If a dispute arises on the 'unequal' clause of the Anglo-Siamese Treaty of 1909, the Soviet doctrine of unequal treaties may prove to be of some assistance.

The Anglo-Siamese Treaty of 1909 utilized the thalweg, that is, the line of maximum depth, as the precise national boundary along the course of the river in line with the international practice at the beginning of the nineteenth century. However, the utilization of the thalweg raises some problems, for instance, where the channel is relatively straight it is usual for the thalweg to move back and forth from positions near one bank to another, its precise delineation thus requires a detailed survey of the river bed.\textsuperscript{41}

Using the Sungei Golok as an international boundary has raised many problems. The most significant problem in a 'maritime' context is that the river changes its course and so the thalweg shifts from one bank to another. As a result, in 1972, the mid-stream boundary line was accepted as the international boundary between the two countries.\textsuperscript{42}

**The Johore - Singapore Treaty of 1927\textsuperscript{43}**

The 1824 boundary between Johore and Singapore was modified by the 1885 Johore Treaty\textsuperscript{44} and restated rather more carefully in 1906 by Sir Laurence Guillemard (Governor and High Commissioner 1919 - 27). He redefined the frontier in connection with the requirements of the Imperial Naval Base, which was being established at Singapore. The result was the treaty, which was signed between Sultan Ibrahim of Johore and Guillemard's successor, Sir Hugh Clifford (Governor and High Commissioner 1927 - 29). In 1927, Britain and Johore entered into a treaty called the Great Britain-Johore Treaty of 1927: - "An agreement concerning the Johore Strait for purposes of retrocession of the waters and Straits of Johore."
Article IV required Parliamentary approval before the treaty could take effect and in the following year the Straits Settlements and Johore Territorial Waters (Agreement) Bill was introduced into the House of Lords. When the Bill was read the second time on 27 March 1928, Lord Lovat, the Parliamentary Under-Secretary at the Colonial Office, unwittingly drew attention to the paradoxical relationship that Britain had in her treaty relations with Malay Rulers: “The Sultan of Johore is a Sovereign Prince. He is directly under the protection of His Majesty ...”. The Bill merely makes a slightly altered boundary inside the Empire. The Bill received the Royal Assent on 3 August 1928 and is known as the Straits Settlement and Johore Territorial Waters (Agreement) Act 1928. Another Agreement was the Boundary Treaty with Singapore. This Treaty was made between Sir Hugh Charles Clifford, Governor and Commander-in-Chief of the Colony of the Straits Settlement, on behalf of His Britannic Majesty, and His Highness Ibrahim bin Almorhom Sultan Abu Bakar, Sultan of the State and Territory of Johore. The importance of the Johore Treaty is that it is clear on what constitutes Johore Territorial Waters, that is, the territorial sea of Johore extended to three miles from the shore of the state.45

Generally delimitation of territorial sea boundaries between opposite states is based upon the median line. In the 1927 Johore Treaty, however, the States used the centre-line of the main deepwater channel of the Johore Straits. Article I states that the boundary between the territorial waters of the Settlement of Singapore and those of the State and Territory of Johore shall be an imaginary line following the centre of the deep-water channel in Johore Strait, between the mainland of the State and Territory of Johore on the one side, and the Northern shores of the islands of Singapore, Pulau Ubin, Pulau Tekong Kechil and Pulau Tekong Besar on the other side. Where, if at all, the channel divides into two portions of equal depth running side by side, the boundary shall run mid-way between these two portions. At the Western entrance of Johore Strait, the boundary, after passing through the centre of the deep-water channel eastward of Pulau Merambong, shall proceed seaward, in the general direction of the axis of this channel produced, until it intersects the three mile limit drawn from the low water mark of the South Coast of Pulau Merambong. At the Eastern entrance of Johore Strait, the boundary shall be held to pass through the centre of the deep-water channel between the mainland of Johore, westward of Johore Hill, and Pulau Tekong Besar, next through the centre of the deep-water channel between Johore Shoal and the mainland of Johore, southward of Johore Hill, finally turning Southward, to intersect the three-mile limit drawn from the low water mark of the mainland of Johore in a position bearing 192 degrees from Tanjong Sitapa. The boundary as so defined is approximately delineated in red on the map annexed and forms part of this agreement. Should, however, the map, owing to alterations in the channels, appear at any time to conflict with the text of the Agreement, the text shall in all cases prevail.
Article ii states that all those waters ceded by their Highnesses the Sultan and Tumungong of Johore under the Treaty of 2nd of August, 1824, which are within three nautical miles of the mainland of the State and Territory of Johore measured from the low-water mark shall be deemed to be within the Territorial waters of the State and Territory of Johore.

Article III points out that all islets within the territorial waters of the State and Territory of Johore, which prior to this Agreement formed part of His Majesty’s Dominions, are ceded in full sovereignty and property to the Sultan of Johore and his heirs and successors forever.

POST-COLONIAL TREATIES

The post-colonial treaties used the equidistant median line, as in the Malaysia - Singapore territorial sea boundary in the Strait of Johore, and a modified equidistant line, as in the treaties with Thailand.46

Malaysia and Indonesia: Delimitation of the territorial waters

The Strait of Malacca is less than 24 nms wide in the region just below the One Fathom Bank. Accordingly, a treaty between the Republic Of Indonesia and Malaysia on Determination of Boundary Lines of Territorial Waters of the Two Nations at the Strait of Malacca was signed on 17 March 1970 and it came into force on 8 October 1971. By this Treaty, both countries established a boundary in a narrow section of the Straits by a median line. Article 1(1) states that the boundary lines of territorial waters of Indonesia and Malaysia at the Strait of Malacca in areas as stated in the preamble of this Treaty shall be the line at the center drawn from baselines of the respective parties in the said areas. Prior to the drawing of this boundary, the two states had already the previous year delimited their continental shelves. Three separate lines were drawn for this, one in the Strait of Malacca and two in the South China Sea. Charney and Alexander state that for Indonesia the territorial sea boundary coincides with the continental shelf boundary. In the case of Malaysia,

two segments (points 5 - 7), about 40 nautical miles out of a total of 174 do not coincide with the shelf boundary; the line deviates slightly southward in favour of Malaysia, creating a sharp triangular ‘gray zone’ enclosed by Points 5, 6, and 7 on the Indonesian side. This is because Point 6, which lies beyond Malaysia’s territorial sea, does not apply to Malaysia (Article 1(2)(b)).47

Fresh problems arose for consideration on 10 March 1971 when Indonesia decided to exercise her sovereignty over the seas linking some 13,000 islands on the basis that she was an archipelagic state. Indonesia accorded great
importance and seriousness to promoting this doctrine, which transformed
the legal regime from one of territorial seas to one of internal waters. Malaysia
and Indonesia consented to two Memoranda of Understanding in 1974 and
1976 on the issue of the archipelagic concept.

The 1976 Memorandum of Understanding established the joint position
on the proposed archipelagic concept. Malaysia formally recognised Indonesia
as an archipelagic state and Indonesia in turn recognised the rights and
other legitimate interests, which Malaysia traditionally exercised in the
Indonesian archipelagic waters between East and West Malaysia as well as
within its airspace, archipelagic waters, and territorial sea in the South China
Sea. Malaysia’s main concern was her right of access and communication
through those waters whether by sea or air. Pursuant to this Memorandum,
a bilateral treaty was concluded between the two governments after a series
of meetings. The first meeting was held in Kuala Lumpur in February 1981,
the second in Jakarta in June 1981. The third was held in two sessions, the
first half was held in Kuala Lumpur from 1 - 7 October 1981 and the resumed
second half in Penang from 23 - 28 November 1981. However, the Treaty
was signed only on 25 February 1982 in Jakarta, eight months before the
final draft of 1982 LOS Convention was finalised in Jamaica.

Malaysia and Indonesia: the status of archipelagic state and waters

The Treaty between Indonesia and Malaysia on the recognition of the
Indonesian archipelagic state and waters was ratified on 25 May 1984.
Instruments of ratification were exchanged between the Indonesian Ambassadorto Malaysia, Encik Rais Bin, and the Secretary General of the
Malaysian Ministry of Foreign Affairs, Tan Sri Zakaria Ali, at Wisma Putra,
Kuala Lumpur.

For the purposes of this Treaty “archipelagic waters of the Republic of
Indonesia” means all the waters enclosed by archipelagic baselines drawn
in accordance with the laws and regulations of the Republic of Indonesia
and in conformity with international law (Article 1(1)). “Territorial sea of
the Republic of Indonesia” refers to a belt of sea adjacent to archipelagic
baselines drawn in accordance with the laws and regulations of the Republic
of Indonesia and in conformity with international law, the breadth of which
is twelve nautical miles measured from such baselines. “Government ships”
are vessels owned or used by the Government of Malaysia, including naval
ships that are operated for official and non-commercial purposes. “Merchant
ships” cover vessels registered or licensed in accordance with the laws
and regulations in force in Malaysia that are operated for commercial purposes,
including foreign merchant vessels.

“State aircraft” means aircraft owned or used by the Government of
Malaysia, including aircraft used in military, customs and police services
and other aircraft used for official or non-commercial purposes. “Civil aircraft”
means all aircraft, other than state aircraft, registered or licensed in accordance
with the laws and regulations in force in Malaysia.
“Traditional fishing” is understood to mean fishing by Malaysian traditional fishermen using traditional methods in the traditional areas within the territorial sea and archipelagic waters of the Republic of Indonesia lying between East and West, and “traditional fishermen” refers to Malaysian fishermen who, as their basic means of livelihood are engaged directly in traditional fishing in the designated Fishing Area, referred to in paragraph 2 (e) of Article 2 of this Treaty. The “traditional fishing boat” covers any boat owned and used by Malaysian traditional fishermen specifically for traditional fishing in the designated Fishing Area and “fishing vessel” is any vessel, other than a traditional fishing boat, owned and used by Malaysian fishermen. “Foreign fishing vessel” is understood to mean any foreign fishing vessel on joint venture with Malaysian nationals or under any other arrangements with the Government of Malaysia.

The significance of the Treaty lies in Article 2, which recognises the following rights and interests of Malaysia in Indonesian archipelagic waters. On Malaysia’s part, Malaysia recognises and respects the legal regime of the archipelagic state claimed by the Republic of Indonesia. Notwithstanding this, the Republic of Indonesia continues to respect existing rights and other legitimate interests which Malaysia has traditionally exercised in the territorial sea and archipelagic waters as well as in the airspace above the territorial sea, archipelagic waters and the territory of the Republic of Indonesia lying between East and West Malaysia. It recognises:

- the right of access and communication of Malaysian government ships, merchant ships and fishing vessels including foreign fishing vessels and State and civil aircraft;
- traditional fishing rights of Malaysian fishermen in designated areas;
- legitimate interests relating to the existence, protection, inspection, maintenance repair and replacement of existing submarine cables and pipelines including the laying of new lines after notification;
- legitimate interests in the promotion and maintenance of law and order through co-operation with the appropriate authorities of the Government of Indonesia;
- legitimate interests in undertaking joint search and rescue operations;
- legitimate interests in co-operation with Indonesian authorities in marine scientific research for the purposes of the protection and preservation of the marine environment.

The Treaty provides for consultation and co-operation in the implementation of its various provisions.
Malaysia-Singapore Agreement Relating to the Strait of Johore 1995

The state of Johore in Malaysia is separated from Singapore by a ribbon of water called the Strait of Johore (Johore Strait) discussed earlier. The territorial sea boundary between Malaysia and Singapore in the Strait of Johore was concluded on 3 August 1928 with the enactment of the Straits Settlements and Johore Territorial Waters (Agreement) Act by Britain. It gave legislative effect to an Agreement concluded between the British Crown and the Sultan of Johore. The method used for delimitation of the territorial waters was the centre line of the main deep water channel passing between their shores, also known as the thalweg. But this Act was later considered outdated and it became essential for the two countries to review it for various reasons discussed below.

On 10 March 1980 Malaysia and Singapore started a joint hydrographic survey of the strait, which was completed on 10 October 1980. The two coastal states agreed to change the thalweg delimitation to a median line every point of which is equidistant from the nearest points on the baselines from which the breadth of the territorial seas of the two states is measured. The survey showed that there was a shift in the deep water channel, resulting in a change of the sea border, presumably due to Singapore’s efforts at land reclamation. It was believed that the application of Article 12 of 1958 TSC (equivalent to Article 15 of the 1982 LOS Convention) would enable the boundary to be drawn in such a manner as to minimise the loss of territorial waters to both Johore and Singapore and help to reduce the number of bends in the shorelines of both countries when the boundary was drawn.

The purpose of the 1995 Agreement relating to the Strait of Johore, dated 7 August 1995, is to delimit precisely the territorial waters boundary in accordance with the Straits Settlements and Johore Territorial Waters Agreement 1927. The Preamble states that based upon the successful completion of the joint hydrographic survey on 12 May 1982 and the adoption of its report by Malaysia and Singapore on 16 April 1985, the two countries desired to enter into an agreement to delimit precisely the territorial waters boundaries between Malaysia and the Republic of Singapore in the areas described in Article 1 of the 1927 Agreement. Article 1 deals with the Boundary, which reads as follows:

Article 1

The Boundary

1. The territorial waters boundary between Malaysia and the Republic of Singapore as described in Article 1 of the 1927 Agreement is defined by straight lines joining the points, the geographical coordinates of which are specified in Annex I.
2. The latitude and the longitude of the geographical coordinates specified in Annex I have been determined on the Revised Keratu Datum, Everset Spheroid (Malaya), Malaysian Rectified Skew Orthomorphic Projection (Projection Tables Published by the Directorate of Military Survey, Ministry of Defence, United Kingdom-March 1965). Chart Datums used are as described in the Joint Hydrographic Survey Fair Series 1980/1982 listed in Annex II.

3. As an illustration, the territorial waters boundary referred to in paragraph 1 is shown in red on the map attached hereto as Annex III.

4. Where the actual location of the points specified by the geographical coordinates in Annex I or any other points along the boundary is required to be determined, it shall be determined jointly by the competent authorities of the Contracting Parties.

5. For the purpose of paragraph 4 of this article, the term “competent authorities”, in relation to Malaysia shall mean the Director-General of Survey and Mapping, Malaysia and any person authorized by him, and in relation to Singapore shall mean the Head of the Mapping Unit, Ministry of Defence, Singapore and any person authorized by him.

Article 2 states that this Boundary is final. The preferred method of dispute settlement concerning the interpretation or implementation of this Agreement, as highlighted in Article 3, is by consultation or negotiation. Article 4 governs the relationship with the 1927 Agreement, for it provides that in the event of an inconsistency between Article 1 of the 1995 Agreement and Article 1 of the 1927 Agreement, Article 1 of the 1995 Agreement prevails.

Malaysia and Thailand: Delimitation of the territorial seas

The Treaty Between The Kingdom of Thailand and Malaysia Relating to the Delimitation of the Territorial Seas of the Two Countries delimiting the territorial seas in the Strait of Malacca and in the Gulf of Thailand, was signed and ratified on 24 October 1979 and entered into force on 15 July 1982. The two countries of Malaysia and Thailand are adjacent to each other in the region of the Strait of Malacca and in the Gulf of Thailand. The territorial waters of both countries in the region of the Straits overlap between the islands known as the Butang Group and Pulau Langkawi. The boundaries are delimited without reference to a baseline, perhaps due to the smooth coastline of the two countries. In the Strait of Malacca the equidistant method of delimitation is used. The boundary in the Gulf of Thailand presented a problem. The Sungei Golok between Malaysia and Thailand is their land boundary. The principle of delimitation under the colonial treaty was the thalweg of the river. The parties to the present Treaty
experienced some difficulty with the application of the thalweg principle in this case. The difficulty lay in fixing a solid location, a permanent basepoint due to the presence of sand-shifts at the starting point of the river and seabed.50

Along with the signing of this Treaty the parties also concluded a Memorandum Of Understanding on the Delimitation of the Continental Shelf Boundary in the Gulf of Thailand and in the South China Sea.

Indonesia and Singapore: Territorial sea boundary in the Strait of Singapore

The Agreement Stipulating the Territorial Sea Boundary Lines Between Indonesia and the Republic of Singapore in the Strait of Singapore51 was signed on 25 May 1973 and entered into force on 29 August 1974. Indonesia ratified it on 3 December 1973. Charney states that the need for the current agreement with Indonesia arises out of the fact that the Strait of Singapore is part of what constitutes the Strait of Malacca where the traffic is so dense that it has to be very carefully regulated by the coastal states.” The maritime boundary is a modified equidistant line. There are three turning points on the east measured from low tide elevations. The other three turning points on the west are closer to Indonesia. One of them, Point 2, is located within the Indonesian archipelagic baseline because of the deep draft tanker route around the particular spot.52 They are also measured from low tide elevations off the coast of Singapore and the archipelagic baselines of Singapore. Charney and Alexander are of the view that although the agreement does not expressly specify the method of delimitation employed, it is clear that the three on the basepoints on the east were based on the equidistant method and the other three on the west were measured differently.53

Indonesia and Malaysia: Delimitation of the Continental Shelves

The Agreement Between the Government of the Republic of Indonesia and the Government of Malaysia Relating to the Delimitation of the Continental Shelves Between the Two Countries54 was signed on 27 October 1969 and entered into force on 7 November 1969. With this Agreement, the continental shelves between Indonesia and Malaysia are divided by three lines in all, one line in the Strait of Malacca, and two in the South China Sea. This Agreement was concluded before the territorial waters treaty between Indonesia and Malaysia. The line drawn in the Strait of Malacca is a median line about 339 nms long. This line was extended by a 1971 Indonesia-Malaysia-Thailand agreement to a tri-junction, called the Common Point, defined in the Agreement between the Governments of the Republic of Indonesia, The Government of Malaysia and the Government of the Kingdom of Thailand Relating to the Delimitation of the Continental Shelf Boundaries in the Northern Part of the Strait of Malacca on 21 December 1971. The second line is also a median line, about 310 nms long drawn between the Malayan Peninsular and the Indonesian islands in the South
China Sea. The northern terminus of this line is equidistant from the territories of Indonesia, Malaysia, Thailand and Vietnam. The third line, which is about 264 kms long, is also drawn in the South China Sea. It is a lateral line drawn from the terminus of the Indonesian-Malaysian land boundary on the northern shore of Borneo. Most of the Agreement areas are less than 200 metres deep and are believed to contain exploitable mineral deposits. Alexander and Charney are of the view that:

- all these three segments of the boundary were drawn mostly by equidistance from the parties' baselines to divide their continental shelf;
- the first segment drawn in the Strait of Malacca reasonably follows the coastal configurations on both sides;
- the second segment is equidistant from the baselines on both sides; and
- the third baseline is a negotiated line situated west of what would be the lateral median line.

The next question is whether these lines coincide with the territorial sea boundary of 1970. Charney and Alexander are of the opinion that the line does not coincide in the southern part of the Strait of Malacca but that it does so in the northern terminus. However, the present boundary was left unfinished to be extended to the "Common Point" as agreed on in the Indonesia-Malaysia-Thailand Agreement of 1971.

The principal features of the Agreement are as follows:

(a) the boundaries of the continental shelves between Indonesia and Malaysia connect geographical coordinates referred to as points indicated on charts. The actual location of these points at sea shall be determined by a method to be mutually agreed upon by the competent authorities of the two Governments.

(b) It does not in any way affect any future agreement, which may be entered into between the two Governments relating to the delimitation of the territorial sea boundaries between the two countries.

(c) The procedure for the recovery of unitised deposits of mineral resources from the agreement areas are specified. It states that if any single geological petroleum or natural gas structure extends across the straight lines referred to in Article 1 and the part of such structure which is situated on one side of the said lines is exploitable, wholly or in part, from the other side of the said lines, the two Governments will seek to reach agreement as to the manner in which the structure shall be most effectively exploited.
(d) Disputes between the two Governments arising out of the interpretation or implementation of this Agreement shall be settled peacefully by consultation or negotiation.64 However, environmental considerations did not play a part in the delimitation exercise.65

Indonesia and Thailand: Delimitation of a Continental Shelf Boundary

The Agreement between the Government of the Republic of Indonesia and the Government of the Kingdom of Thailand Relating to the Delimitation of a Continental Shelf Boundary between the Two Countries in the Northern Part of the Strait of Malacca and in the Andaman Sea66 was signed on 17 December 1971 and entered into force on 16 July 1973. The boundary between Indonesia and Thailand consists of an 89 nms long line located at the entrance to the Strait of Malacca,67 traversing a broad submarine depression.68 This Agreement was made in the full knowledge of the Indonesian-Malaysian-Thai Agreement to be signed four days later, extending these boundary south-eastwards to the Malaysian tri-junction. Article II requires the parties to agree on the best method of exploiting any single oil or gas field, which straddles the boundary. Geographic considerations were central to the delimitation of this boundary69. Economic, biological, ecological or scientific considerations did not influence its position.70 Article III requires the two Governments to settle any dispute arising out of the interpretation or implementation of this Agreement peacefully by consultation or negotiation.

Malaysia and Thailand: Memorandum of Understanding on Delimitation of the Continental Shelf Boundary

The Memorandum of Understanding between the Kingdom of Thailand and Malaysia on the Delimitation of the Continental Shelf Boundary between the Two Countries in the Gulf of Thailand71 was signed and ratified on 24 October 1979 and entered into force on 15 July 1982. The continental shelf boundary of approximately 29 nms in length is a simplified equidistant lateral delimitation, which starts at the seaward terminus of the territorial sea boundary. The parties were unable to agree on the legal status of a Thai rock known as ‘Ko Losin’. The area around the rock became a disputed area. For one point in the boundary the parties agreed to use a point formerly applied in the Boundary Protocol annexed to the Treaty between Siam and Great Britain of 10 March 1909. As a result the boundary line has a tiny zigzag.72 Therefore, at the seaward terminus of the shelf boundary, the parties disagreed on the delimitation further offshore.73 The parties also signed a Memorandum of Understanding on the Establishment of a Joint Authority for the Exploration and Exploitation of the Resources of the Seabed with respect to the disputed area of Ko Losin, which came into force together with this agreement.74 There were no particular economic, environmental or unusual geographic considerations shown in the agreement.
Thailand and Malaysia: Establishment of a Joint Authority for the Exploitation of the Resources of the Seabed in the Gulf of Thailand

Simultaneously with the Malaysia - Thailand Gulf of Thailand Continental Shelf Boundary, the parties signed a Memorandum of Understanding on the Establishment of a Joint Authority for the Exploration and Exploitation of the Resources of the Seabed which establishes the Joint Authority known as the "Malaysia-Thailand Joint Authority" for the exploration and exploitation of the non-living natural resources of the seabed and sub-soil of the disputed area of the continental shelf boundary in the Gulf of Thailand for a period of fifty years commencing from the date this MOU came into effect. Article I states that the area of overlap is bounded by straight lines. Article II provides that the parties have agreed to resolve all problems of boundary delimitation by negotiations or such other peaceful means as agreed by the parties and in Accordance with the Agreed Minutes of the Malaysia-Thailand Officials’ Meeting on Delimitation of the Continental Shelf Boundary Between Malaysia and Thailand in the Gulf of Thailand and in the South China Sea, 21 February-1 March 1978. According to the provisions of Article III(2), the Joint Authority assumes all rights and responsibilities on behalf of both parties, for the development, control and administration of the joint development area. Article IV provides that the rights conferred or exercised by the national authority of either Party in matters of fishing, navigation, hydrographic and oceanographic surveys, the prevention and control of marine pollution and other similar matters shall extend to the joint development area and such rights shall be recognised and respected by the Joint Authority.

Malaysia and Thailand: Establishment of the Joint Authority

The 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 concluded on 30 May 1990 sets out in twenty-two articles various aspects relating to the legal status and organisation of the Joint Authority. There are provisions on juristic personality and capacity, the purpose, membership, and procedure. Provisions on personal liability, emoluments, and powers and functions are found in Articles 5, 6, and 7 respectively. Article 8 is devoted to production sharing and Articles 9 to 12 to financial provisions. The regulations and relations with other organisations are dealt with in Articles 13 and 14. Article 15 states the procedure for the amendment of the Acts. Customs, excise and taxation are discussed in Articles 16 and 17. All other miscellaneous provisions such as entry into force and termination, application, amendment, settlement of disputes and signature are covered in Articles 18 to 22.
INTERNATIONAL ENVIRONMENTAL LAW PRINCIPLES

The treaties concluded by the various states parties do not reflect any environmental law principles that the delimitations should have taken note of. There are several important environmental principles for this century, laid down by Chapter 17 of Agenda 21 that compel us to re-examine and re-negotiate where necessary, boundary delimitations that seem to adversely coastal states right to sustainable use and development of their maritime resources. Ade has set out thirty environmental law principles when drafting an environmental treaty. The treaties discussed in this paper ought to be revised mutatis mutandis in the light of the following thirty environmental principles mutatis mutandis advanced by Ade, which are found in several environmental conventions and are grounded in the 1982 LOS Convention as far as possible. Some significant provisions recognized by Ade are provisions based on the precautionary principle (scientific evidence clauses) as in Article 3 of the Climate Change Convention and provisions recognising the principle of common but differentiated responsibility and the concept of inter-generational equity as in Article 3(1) of the Climate Change Convention. Equally important are provisions based on “polluter pays principle” as provided in Articles 3 - 5 of the Convention on Civil Liability for Oil Pollution Damage from Off-shore Operations and provisions extending rights under an environmental treaty to non-parties as in Article 234 of the 1982 LOS Convention. It is necessary that an environmental treaty has provisions on specially protected areas as in Article 234 of the 1982 LOS Convention; provisions on the right of sovereignty over natural resources as in Article 15(1) of the Convention on Biological Diversity and provisions on co-operation to protect the global commons as in Principle 21 of the Stockholm Declaration and in Article 4 of the Convention on Biological Diversity.

Besides the above environmental law principles, Ade points out that the very first environmental consideration that needs to observed is that there has to be certain provisions on the general obligation of states to protect and preserve the environment when exercising sovereign rights to exploit their natural resources. This is in accordance with Principle 21 of the Stockholm Declaration and which is endorsed in Part XII of the 1982 LOS Convention. There should also be provisions on the obligation to take measure to prevent, reduce and control pollution of the marine environment as endorsed in Article 194 (1) of the 1982 LOS Convention and provisions on the obligation not to transfer environmental harm from one State to another or not to substitute one form of environmental harm for another as endorsed in Article 195 of 1982 LOS Convention.

Further, treaties should have provisions on the obligation to co-operate in undertaking research and systematic scientific observation (monitoring) as laid down in Article 5 of the 1992 United Nations Framework Convention on Climate Change (1992 Climate Change Convention), Annex V thereto; provisions on co-operation on scientific research and training as laid down in Article 6 of the 1992 Climate Change Convention, Annex V thereto; and
provisions on co-operation on exchange of information as spelt out in Article 200 of the 1982 LOS Convention. There should also be provisions on public education and awareness of programmes and measures for dealing with issues under a treaty as found in Articles 8 and 12 of the 1990 International Convention on Oil Pollution Preparedness, Response and Co-operation. 85 The importance of provisions on environmental impact assessment as highlighted in Articles 205 and 206, 1982 LOS Convention; provisions on transfer of environmentally sound technology and on technical assistance to developing countries as laid down in Article 266 of the 1982 LOS Convention; provisions on access to natural resources and distribution of benefits of scientific research as set out in Article 16 of the 1992 Convention on Biological Diversity; and provisions relating to financial resources and mechanisms as articulated in Article 203 of the 1982 LOS Convention and/or the establishment of an international fund as set up under the 1969 and 1992 CLCs cannot be denied. The treaties also need to incorporate provisions on prompt notification of environmental emergencies is deemed as part of customary international as enunciated in the Corfu Channel Case, 86 in Article 198 of the 1982 LOS Convention and in Article 5(1) of the 1990 OPRC; provisions on contingency plans and assistance in case of environmental emergency arising from accidents as laid down in Article 199 of the 1982 LOS Convention and Article 3 of the 1990 OPRC; and provisions on disclosure of potential dangers to the environment (non-accident situations) as spelt out in Article 19 of the Convention on Biological Diversity. Similarly there is a requirement for provisions on monitoring of compliance with and implementation of an international treaty as stated in Article 154 of the 1982 LOS Convention; provisions establishing procedures for verification of alleged violations of an environmental treaty as in Article 6 of MARPOL 73/78; and provisions establishing subsidiary institutions on scientific, technological and technical advice as in Article 10 of the Climate Change Convention.

Every treaty must contain provisions encouraging the adoption of further international legal instruments relating to a treaty as highlighted in Article 197 of the 1982 LOS Convention and on encouraging state parties to adopt domestic measures and national legislation and strategies to implement a treaty as in Article 1 of the Association of South-East Asian Nations Agreement on the Conservation of Nature and Natural Resources. Where applicable a treaty should also incorporate provisions on trade and environment as in Article 5 of the Climate Change Convention and in Para 39.3(d), Chapter 39 of Agenda 21. 87 Any such treaty should have provisions relating to mechanisms for amending or reviewing technical parts of an environmental treaty or its technical annexes either based on the IMO model on “tacit acceptance” 88 or by the “explicit acceptance” procedure laid down in Article 40 of the 1969 Vienna Convention on the Law of Treaties. Finally, there has to be a clause that deals with provisions relating to the question of liability and compensation as set out in Article 235(3) of the 1982 LOS Convention and provisions relating to the settlement of disputes as set out in part XV of the 1982 LOS Convention.
CONCLUSION

This article discussed the colonial and post-colonial treaties that were concluded between the coastal nations on the delimitation of the territorial sea and the continental shelf. These treaties involved demarcation and division of water column, seabed and living and non-living resources. They have not taken into consideration the sustainable development of the living and non-living resources of the waterway for they are not based on the preventive and precautionary principles. There may be several reasons for this omission, for example, that these treaties were concluded before the 1982 LOS Convention and Chapter 17 of Agenda 21 were. The treaties concluded in the post colonial period concerning the Straits of Malacca and Singapore did not reflect any environmental considerations. Those concluded over the Gulf of Thailand over the joint exploitation of resources do contain some environmental provisions. These treaties show the demarcation of maritime territory of States Parties, and consequently their jurisdiction over the sea.

It is very important for the states to know the extent of the geographic maritime area that they claim and consequently over which they have to exercise due diligence by carrying out activities that prevent and eliminate marine pollution from occurring, particularly the prevention of oil spills as spelt out in the 1969 and 1992 Civil Liability for Oil Pollution Conventions. Joint and continuous hydrographic studies need to be carried out in the Straits of Malacca and Singapore such that the strait states are aware of the changes in the seabed and shift of deep water channels which have to be made public to the international shipping community as part of the due diligence exercise of the strait states. Two treaties on the Gulf of Thailand were included here to show that environmental considerations did play a part in those treaties, which concerned the joint exploitation of natural resources, by Malaysia and Thailand. Boundary treaties are environmentally significant because of the due diligence requirement spelt out in the 1969 and 1992 CLC. These boundary treaties do not refer to the concept of pollution or of sustainable development as understood in international environmental law today.

It is argued that these treaties have to be re-examined and reworked by the States, under the procedural guidance laid down in Article 43 of the 1982 LOS Convention, by taking into account the international environmental law principles and adopting a holistic approach based on a sound marine environmental theory adopted by these states.

NOTES


4 516 UNTS 205.

5 499 UNTS 311.


7 (1982) 76 AJIL at 555.

8 In 1661 Norway and Sweden established a fjord boundary in the Bay of Christiana; Peace Treaty of 17 September 1809 between Finland and Sweden; Raritan Bay Treaty of 16 September 1833 between New Jersey and New York of the United States; Treaty between China and Great Britain signed at Nanking on 29 August 1842, (93 CTS at 465); Treaty Between Great Britain and the United States signed at Washington on 15 June 1846 (100 CTS 39).

9 Sang-Myon Rhee, at 585.

10 Charney J.I., “The Delimitation of Lateral Seaward Boundaries Between states in a Domestic Context” (1981) 75 AJIL at 28 to 68 at 46; Some American cases on thatalweg, Louisiana v Mississippi 202 US 1 (1906); New Jersey v Delaware 295 US 694 (1935); New Jersey v New York, 283 US 336, 342; Arkansas v Tennessee 310 US 563, 571 (1940); People v Central RR Co of New Jersey, 42 NY 283 (1870).

11 Sang-Myon Rhee, at 586.

12 Treaty of Peace Between the Emperor, the Empire and France signed at Luneville on 9 February 1801, 55 CTS at 475.

13 Sang-Myon Rhee, at 564.

14 Sang-Myon Rhee, at 565. The Grisbardana Case (Norway v Sweden) 1909 Hague Court Reports 121 at 127 used the straight perpendicular line to the coast to divide the lobster fishing ground of Grisbardana between Norway and Sweden.

15 Ibid.

16 Ibid at 330 to 331.

17 See Shearer I.A. and O’Connell D.P., “Mid-Ocean Archipelagoes in International Law” (1971) 45
Article 53 deals with right of archipelagic sea lanes passage and Article 54 deals with inter alia duties of ships and aircraft during such passage.

See in “Continental Shelf”, Encyclopaedia of Public International Law, Vol 11, at 99. For the Truman Declaration on the Continental Shelf, see Proclamation 2667. Policy of the United States with respect to the Natural Resources of the Sub-Soil and Sea-Bed of the Continental Shelf, 28 September 1945, Department of State Bulletin, Vol (13) (1945) at 485.


Continental Shelf Arbitration (France v UK) (1979) 18 ILM at 397.


Continental Shelf Case (Libyan Arab Jamahiriya v Malta) Application for Permission to Intervene, (1984) ICJ Reports at 3.


Published by the Pengarah Pemetaan Negara (Director of National Mapping) Rampaiian 97, Cetakian 1-PPNM; see Notification of a New Map of the Continental Shelf of Malaysia (Pemberitahuan Mengenai Peta Baru Pelantar Benua Malaysia) Jil. 23, No 26, Tambahan No 1, No 5745, 21 December 1979.


Ibid at 114 to 116.

Id at 114 to 116.

Section 3 of Annex 1 to the Treaty of 10 March 1909: Boundary Protocol. It reads:

...If during the operations of delimitation it should appear desirable to depart from the frontier as laid down herein, such rectification shall not under any circumstances be made to the prejudice of the


(1962) *ICJ Reports* at 6 to 26. In this case, the International Court of Justice (ICJ) was asked to rule that Cambodia, and not Thailand, had sovereignty over the Temple of Preah Vihear and that Thailand should both remove the armed guards and other persons it had placed in the Temple since 1954 and return sculptures and other objects it had taken from there.

In 1904, the boundary between Cambodia (then a protectorate of France) and Thailand (then Siam) in the wild, remote and sparsely populated area of Preah Vihear was determined by a treaty between France and Siam. The treaty stated that it was to follow the watershed line and provided for the details to be worked out by a Mixed Franco-Siamese Commission.

1. Surveys were conducted by technical experts for the Commission on the basis of which a map was prepared. This clearly placed the Temple in Cambodia. The Commission neither approved the map nor met after the map had been drawn up. Cambodia relied upon the map. Thailand, argued, *inter alia*, that the map embodied a material error because it did not follow the watershed line as the treaty required. It argued this even though the Court found the Siamese had received and accepted the map. The Court considered that the character and qualifications of the persons who saw the Annex 1 map on the Siamese side would alone make it difficult for Thailand to plead an error-in-law. These persons included the members of the technical experts for the Commission and formed an essential basis of its consent to be bound by the treaty.

2. Paragraph 1 shall not apply if the state in question contributed by its own conduct to the error or if the circumstances were such as to put that state on notice of a possible error.

3. An error relating only to the wording of the text of a treaty does not affect its validity; Article 79 then applies.

Error or mistake plays a much less important part in the law of treaties in international law than it does in the contract law in municipal law. Treaties are generally concluded with considerable care. The Vienna Convention on the Law of Treaties 1969 (1969) 8 *ILM* 679 does not have a retroactive effect: Article 4 of the Convention reads:

> Without prejudice to the application of any rules set forth in the present Convention to which treaties would be subject under international law independently of the Convention, the Convention applies only to treaties which are concluded by states after the entry into force of the present Convention with regard to such states. Other related issues on sketches of boundaries and maps proper include: When the rough sketch of the boundary and the maps were drawn up were both states parties involved in the exercise? What were the character and qualifications of the persons who saw the rough sketch of the map? When a material error is found on the map and it is consented to by both parties, especially when (1) it is contributed by the conduct of the party pleading the error, or (2) the party pleading the error could have avoided it, or (3) if the circumstances were such as to put that party on notice of a possible error, then the court according to the Temple case has to consider the character and qualifications of the persons who saw the map and conclude that no error occurred which was not without the consent of the party pleading otherwise.

The Vienna Convention on the Law of Treaties 1969 provides for the issue of error in Article 48 in the following terms:

1. A State may invoke an error in a treaty as invalidating its consent to be bound by the treaty if the error relates to a fact or situation, which was assumed by that State to exist at the time when the treaty was concluded the very Commission of Delimitation within whose competence this sector of the frontier, had lain.
Were a rectification necessary to the Treaty of 1909 due to some geographical development, could Thailand still argue that it has to be made to its advantage only? If there were some geographical developments occurring on the Malaysian side of the boundary which call for a new boundary or for the old boundary to be modified, why would Malaysia desire to make the necessary rectification to protect Thai interests at the expense of Malaysia's sovereignty. How far binding is that unfair and unequal term/clause? An answer may be found in the international law on accretion and avulsion in the acquisition of title to territory.

The general principle of international law is that if accretion occurs on a boundary river (between two states), then the international boundary changes, whereas with cases of avulsion the international boundary will remain where it was originally established. If the river is navigable, the boundary will follow the thalweg; viz, the centre of the navigable channel. If a river is not navigable, the middle of the river stream will constitute the boundary. Otherwise, principles of accretion, avulsion and prescription could also be used for purposes of demarcation of title to territory.

37 France, Italy, Japan and the United Kingdom v Germany (1923), PCIJ Reports Series A, No 7.
39 See the unsettled issue of Gibraltar, claimed by both Spain and Great Britain, which was captured in 1704 from Spain by a British/Dutch expedition during the war. Spain later ceded it to Great Britain. The relevant treaty provision is Article X of the Treaty of Utrecht, 1713.
40 Kozhevnikov (Ed.), International Law (1961) at 248.
41 See Rachagan S. and Dorall R.F., at 50.
42 See Rachagan S. and Dorall R.F., at 48 to 55. Many issues arise for consideration in the context of treaty law where treaties were concluded between colonial powers and an entity which may or may not be recognized as possessing international personality and which may or may not be recognized by the international community.

These issues are relevant for all treaties. Every treaty has four elements, viz (1) the capacity of parties or international personality of states to conclude treaties, (2) manifestation of an intention to act under international law, (3) consensus ad idem or the meeting of minds must be present and (4) the parties must have the intention to create moral obligations. In the conclusion of treaties, attention must be paid to the following details inter alia: treaty making power in international law, the form of the treaty, signature and ratification, reservations, registration of treaties and language of the treaty and material content of the treaties.

In 1942, when Britain concluded the Treaty Relating to the Submarine Areas of the Gulf of Papia on behalf of Trinidad and Venezuela, the states parties agreed on a median line delimitation in the Gulf of Papia. The effect of the delimitation was that in essence they divided up the seabed in the Gulf between themselves and accorded unto themselves sovereign rights in each territory and acknowledged the sovereignty of the other. The first few instances of claims to the continental shelf were thus concluded, long before the legal concept of the continental shelf itself was established.

43 Allen J. de V., Stockwell A. J. and Wright L. R., at 114 to 116.
44 Johore Treaty of 11 December 1885, Allen J. de V., Stockwell A. J. and Wright L. R., at 72 to 74.
45 Article ii of the Treaty in Allen J. de V., Stockwell A. and Wright L.R.
46 Charney J.I. and Alexander L.M. (Eds.) (Eds.) The American Society of International Law:
Besides the Treaty another document called “Record of Discussion” was signed. Unlike the treaty, which bears the signatures of the Ministers of Foreign Affairs from both governments, the Record of Discussion was separately signed by the respective leaders of the negotiating teams.

Charney J.I. and Alexander L.M. (Eds.), Note 46 at 1093.

Charney J.I. and Alexander L.M. (Eds.), Note 46 at 1091. The parties were reported to have been looking into the possibility of constructing a permanent structure if at all possible, Charney J.I. and Alexander L.M. (Eds.), Note 46 at 1093.

Charney J.I. and Alexander L.M. (Eds.), Note 46 at 1050.

Charney J.I. and Alexander L.M. (Eds.), Note 46 at 1050.

Charney J.I. and Alexander L.M. (Eds.), Note 46 at 1050 and 1051.


Charney J.I. and Alexander L.M. (Eds.), Note 46 at 1019.

Charney J.I. and Alexander L.M. (Eds.), Note 46 at 1021.

Charney J.I. and Alexander L.M. (Eds.), Note 46 at 1020.

Charney J.I. and Alexander L.M. (Eds.), Note 46 at 1021.

Charney J.I. and Alexander L.M. (Eds.), Note 46 at 1022.

Charney J.I. and Alexander L.M. (Eds.), Note 46 at 1022.

Article 1(3).

Article 3.

Article 4.

Article 5.

Charney J.I. and Alexander L.M. (Eds.), Note 46 at 1021.


Charney J.I. and Alexander L.M. (Eds.), Note 46 at 1456.

Charney J.I. and Alexander L.M. (Eds.), Note 46 at 1456.

“It appears that geography had a very important influence on the location of this line. The two opposite coasts have quite different characters. The Indonesian coast of Sumatra consists of a fairly smooth gently curved coast with some prominent headlands. The only variation occurs at the western end of Sumatra where a number of medium and small islands are located close to the main island. The Thai coast has some marked embayment and several offshore islands. Some of them are closely integrated with the mainland while some stand
as far as 30 nms off the coast. The two Governments seemed to have agreed to use the nearest points of each territory” See Charney J.I. and Alexander L.M. (Eds.), Note 46 at 1457.

70 Charney J.I. and Alexander L.M. (Eds.), Note 46 at 1456.
71 Charney J.I. and Alexander L.M. (Eds.), Note 46 at 1099.
72 Charney J.I. and Alexander L.M. (Eds.), Note 46 at 1100.
73 Charney J.I. and Alexander L.M. (Eds.), Note 46 at 1099.
74 Committee for Coordination of Joint Prospecting for Mineral resources in Asian Offshore Areas (CCOP), 14 CCOP Newsletter, Bangkok, (Nos 3 and 4 July, July - December 1989); Kittichaisaree K., *The Law of the Sea and Maritime Boundary Delimitation in South-East Asia*.

(Singapore: Oxford University Press: 1987) at 100 to 101; Pachusanond, “Thailand and the Settlement of Dispute in the 1982 Law of the Sea Convention", *SEAPOL STUDIES No. 2 (c)*, Institute of Asian Studies, Chulalongkorn, University, Bangkok, (undated, mimeo) at 34 to 36.
75 Charney J.I. and Alexander L.M. (Eds.), Note 46 at 1107.
76 Article III(1).
77 The assumption of such rights and responsibilities by the Joint Authority in no way affects or curtails the validity of concessions or licences that have been issued or agreements or arrangements already made.
78 Annex III of the MOU states that the Thai EEZ is established adjacent to the EEZ of Malaysia in the Gulf of Thailand (16 February 1988). However, there is a discrepancy in this date as the Annex also refers to 23 February 1981.
79 Article 1.
80 Article 2.
81 Article 3.
82 Article 4.
84 (1977) 16 ILM 1450.
85 (1990) 30 ILM 735.
86 (1949) *ICJ Reports* at 22.