

## MEMORIAL OF BANGLADESH<sup>4</sup>

<sup>4</sup> *Note by the Registry:* The text reproduced here contains the corrections made by Bangladesh subsequent to the initial submission.



INTERNATIONAL TRIBUNAL FOR THE LAW OF THE SEA

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**DISPUTE CONCERNING DELIMITATION OF THE MARITIME  
BOUNDARY BETWEEN BANGLADESH AND MYANMAR IN THE  
BAY OF BENGAL**

**BANGLADESH / MYANMAR**

MEMORIAL OF BANGLADESH

VOLUME I

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## CHAPTER 1

### INTRODUCTION

1.1 The People's Republic of Bangladesh initiated these proceedings against the Union of Myanmar on 8 October 2009, when it filed a Notification under Article 287 and Annex VII of the 1982 United Nations Convention on the Law of the Sea ("UNCLOS" or "the 1982 Convention"), together with a Statement of Claim and the grounds on which it was based.<sup>1</sup> In response, on 4 November 2009, Myanmar accepted the jurisdiction of the International Tribunal for the Law of the Sea ("ITLOS" or "the Tribunal") for the settlement of the dispute between Bangladesh and Myanmar "relating to the delimitation of [the] maritime boundary between the two countries in the Bay of Bengal".<sup>2</sup> On 13 December 2009, Bangladesh confirmed in writing that it too accepted the jurisdiction of ITLOS for the settlement of the dispute that was the subject of its Notification of 8 October 2009.<sup>3</sup>

1.2 On 16 December 2009, ITLOS entered the case in its List of Cases as Case No. 16, based on the Special Agreement notified to it by the letter of 13 December 2009 from Bangladesh's Foreign Minister. With the Special Agreement, Bangladesh nominated Professor Vaughan Lowe QC as *Ad Hoc* Judge.

1.3 By Order dated 20 January 2010, the Tribunal fixed the time limit for the filing of the Memorial by Bangladesh as 1 July 2010 and the time limit for the filing of the Counter-Memorial by Myanmar as 1 December 2010, and reserved the subsequent procedure for further decision. By Order dated 17 March 2010, the Tribunal fixed the time limits for the filing of the Reply by Bangladesh as 15 March 2011 and the filing of the Rejoinder by Myanmar as 1 July 2011. This Memorial is submitted pursuant to the first of these Orders.

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<sup>1</sup> Government of Bangladesh, Statement of Claim and Notification under UNCLOS Article 287 and Annex VII, Article 1 (8 October 2009).

<sup>2</sup> Government of Myanmar, *Declaration under Article 287 of the UNCLOS Accepting the Jurisdiction of the International Tribunal for the Law of the Sea* (4 November 2009). Memorial of Bangladesh (hereinafter "MB"), Vol. III, Annex 22.

<sup>3</sup> Government of Bangladesh, *Declaration under Article 287(1) of the UNCLOS Accepting the Jurisdiction of the International Tribunal for the Law of the Sea* (12 December 2009). MB, Vol. III, Annex 23.

1.4 Bangladesh has brought these proceedings for four related reasons: *first*, to bring to an end the long-standing difference between the two States that is undermining their efforts to develop the resources associated with the maritime spaces adjacent to their coasts, including reserves of oil and gas; *second*, in regard to the territorial sea, to obtain confirmation that the maritime boundary between Bangladesh and Myanmar is delimited by the *1974 Agreed Minutes Between the Bangladesh Delegation and the Burmese Delegation Regarding the Delimitation of Maritime Boundary Between the Two Countries*; *third*, to obtain a definitive ruling on the delimitation of the maritime spaces that connect Bangladesh and Myanmar, including the exclusive economic zone (“EEZ”) and continental shelf up to and beyond 200 nautical miles (“M”); and *fourth*, to ensure that Bangladesh definitively establishes its rights under international law to the resources of its outer continental shelf in the area beyond 200 M.

1.5 In bringing these proceedings, Bangladesh has been consistent with its longstanding commitment to the rule of law in international relations. The initiative is premised on the availability of the dispute settlement system established by the 1982 Convention, which Bangladesh signed in 1982 and to which it became a party on 27 July 2001. It was inspired by the preamble of the Convention, namely, to “promote the peaceful uses of the seas and oceans” and to strengthen cooperation and friendly relations with Myanmar, its valued neighbour, which ratified the Convention on 21 May 1996.<sup>4</sup>

### **I. Reasons for the Institution of Proceedings Against Myanmar**

1.6 Bangladesh’s case is set out in its Statement of Claim of 8 October 2009. It was prompted to bring these proceedings because, despite negotiations spanning more than three decades, it proved not to be possible for the Parties to reach agreement on an equitable delimitation of the whole of their maritime boundary. To be sure, as early as 1974, the Parties reached agreement on the delimitation of their respective territorial seas and they have respected this agreement in subsequent practise for more than 30 years. However, notwithstanding good faith efforts by both Parties, they have been unable to reach agreement on the delimitation of the maritime areas beyond 12 M, such that there is no prospect of

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<sup>4</sup> See Multilateral treaties deposited with the Secretary-General, U.N. Convention on the Law of the Sea, available at <http://untreaty.un.org/ENGLISH/bible/englishinternetbible/part1/chapterXXI/treaty6.asp>.



concluding a formal agreement in regard to their adjacent exclusive economic zones and continental shelves, including in the areas beyond 200 M. The failure to reach agreement has already had significant adverse consequences for the development of Bangladesh, in particular by limiting its ability to explore, exploit, and develop the natural resources to be found in the EEZ and continental shelf areas.

1.7 Throughout the negotiations, Myanmar insisted on equidistance as the basis for any delimitation in the EEZ and the continental shelf. Bangladesh made clear throughout that it could not accept equidistance in the areas beyond the territorial sea because it does not yield the “equitable solution” required by the 1982 Convention. Bangladesh recognises that equidistance can produce an equitable result in certain geographic contexts, but this is not such a case.

1.8 The fundamental geographic reality of this case is that Bangladesh sits in a broad and deep concavity at the northern limit of the Bay of Bengal, with Myanmar to its east and India to its west. Because of the effects of this concavity, equidistance lines drawn between Bangladesh and each of its neighbours converge a short distance in front of the coast, cutting off Bangladesh’s maritime projection into the Bay. The inequitableness of equidistance to Bangladesh may be seen in **Figure 1.1** (following page 4), which shows the combined effect of the equidistance lines claimed by Myanmar and India. The two lines intersect just 137 M from the Bangladesh coast. Despite Bangladesh’s substantial coastal frontage onto the Bay of Bengal, equidistance prevents Bangladesh from reaching even the 200 M limit and leaves it with a small triangle of maritime space that is dwarfed by the areas claimed by Myanmar and India.

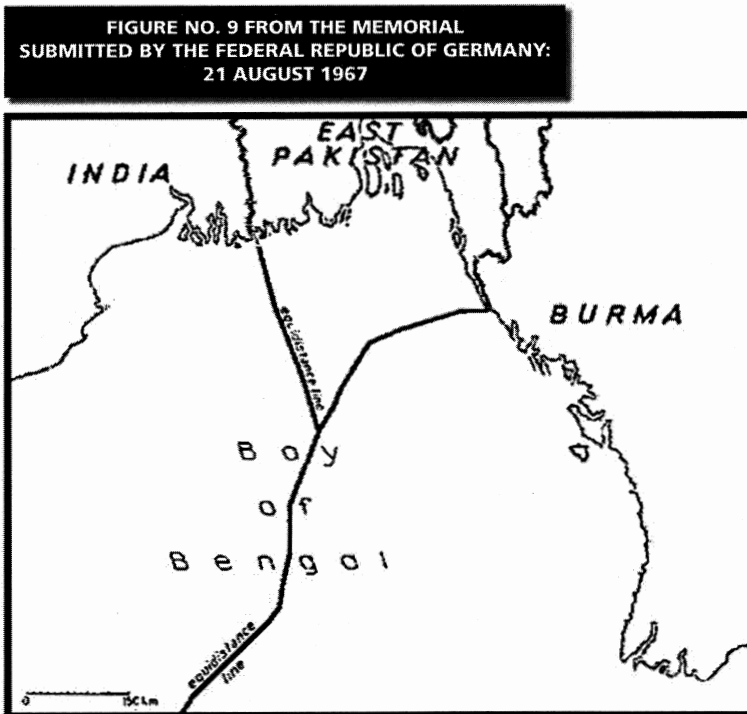
1.9 This case presents geographic circumstances substantially similar to those in the *North Sea Cases* decided by the International Court of Justice (“ICJ”) in 1969.<sup>5</sup> Bangladesh’s geographic situation is equivalent to that of the Federal Republic of Germany, which is located in a similar concavity formed by the North Sea coast between Germany’s borders with Denmark (to the north) and the Netherlands (to the west). Like Bangladesh, equidistance lines drawn between Germany and its two neighbours cut off its maritime projection very

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<sup>5</sup> *North Sea Continental Shelf (Federal Republic of Germany/Denmark; Federal Republic of Germany/Netherlands)*, Judgment, I.C.J. Reports 1969, p. 3.

near the coast. Germany's central contention before the ICJ was that, given the geographic circumstances, equidistance did not yield an equitable result. The Court agreed, and its judgment in the *North Sea Cases* remains a landmark in the history of maritime delimitation jurisprudence.

1.10 The inequity of equidistance to Bangladesh was recognized in the course of the proceedings in the *North Sea Cases*. In making its submission to the ICJ about the inequities equidistance can produce in certain geographic contexts, Germany specifically invoked the example of East Pakistan (now Bangladesh). In particular, Germany used a schematic depiction of equidistance lines drawn between East Pakistan and India, and East Pakistan and Burma (now Myanmar) to demonstrate the effects of a concave coastline on the direction of the equidistance lines. The figure from Germany's written pleadings is reproduced here as **Figure 1.2** below.



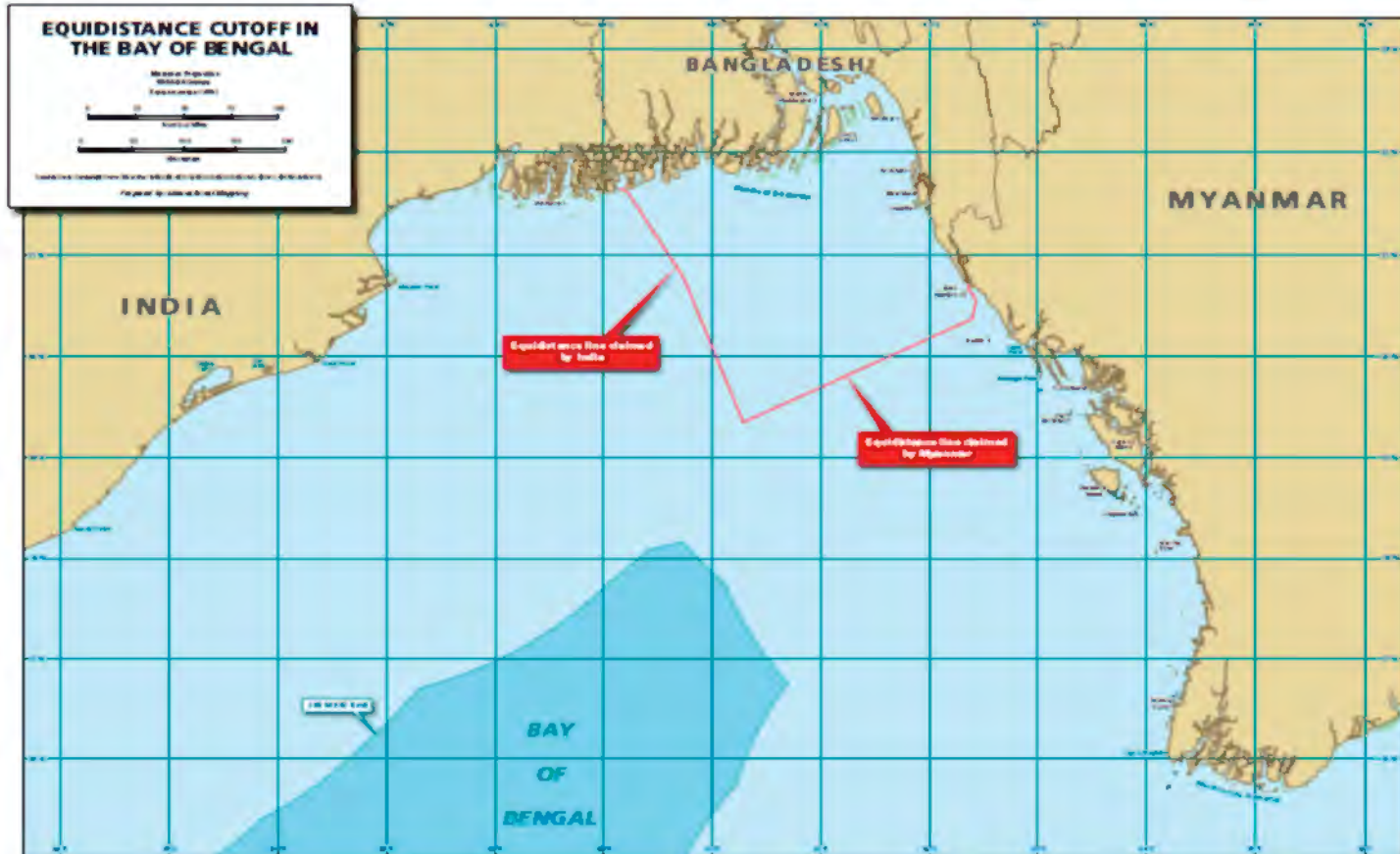


Figure 1.1

1.11 Indeed, Bangladesh's case against the use of equidistance to delimit its maritime boundaries is even stronger than Germany's. Unlike Germany, nature has endowed Bangladesh with a substantial entitlement in the continental shelf beyond 200 M. As will be described in Chapters 2 (relating to the geography, geology, and geomorphology of the Bay of Bengal) and 7 (relating to the delimitation of the continental shelf beyond 200 M), Bangladesh has an extensive "natural prolongation" in the seabed and subsoil of the Bay of Bengal that extends substantially more than 200 M from its coast. The land territory of Bangladesh is linked to the seabed and subsoil in the Bay by a singular process of erosion and deposition that has (a) lifted much of Bangladesh's landmass out of the sea, and (b) shaped the highly unusual seabed throughout the Bay. In particular, each year the on-going erosion of the Himalaya Mountains transports over a thousand million tons of sediments down through Bangladesh's land territory and out into the Bay of Bengal. The accumulation of sedimentary rocks over millions of years now blankets the seabed in layers up to 24 km thick. As it has passed through Bangladesh, much of this sedimentary rock has accreted onto the existing landmass extending Bangladesh's land territory further and further into the Bay over time. Since the end of the last ice age, for example, the territory of Bangladesh has been extended an additional 100 km seaward. The water line thus represents a wholly nominal – and constantly changing – distinction between the Bangladesh landmass and the seabed in the Bay of Bengal.

1.12 For these reasons, the prospect of enclaving Bangladesh within just 137 M of its coast, as the equidistance lines claimed by its neighbours would, is even more inequitable than would have been the case for Germany, which has no similar entitlement. Equidistance boundaries would frustrate Bangladesh's ability to exercise sovereign rights beyond 200 M and would be inconsistent with the "equitable solution" for which UNCLOS calls.

1.13 Because the ICJ was not called upon to actually delimit the continental shelf in the North Sea, but merely to determine whether or not equidistance was an appropriate delimitation methodology, its judgment in the *North Sea Cases* does not provide guidance on the manner in which a delimitation should be effected in geographic circumstances like those existing in the Bay of Bengal. Other cases, however, do suggest an alternative. In situations where reliance on equidistance is inappropriate, the ICJ and international arbitral tribunals have relied on the angle-bisector methodology. This approach, first used in 1984 in the *Gulf*

of *Maine* case<sup>6</sup> and as recently as 2007 in *Nicaragua v. Honduras*,<sup>7</sup> involves depicting the general direction of the Parties' coastlines by means of straight-line coastal façades. The angle formed where these two lines meet is then bisected to yield the direction of the delimitation line.

1.14 Unlike an equidistance line, which is affected by every irregular or anomalous feature, however insignificant, the angle-bisector is based on a macro-geographic depiction of reality and therefore yields a result that is more consistent with the overall geography of a given set of coasts, particularly in the case of adjacent States. As will be described in Chapter 6 (relating to the delimitation of the continental shelf within 200 M and the EEZ), applying this approach here has the singular advantage of minimizing, although not eliminating, the distorting effects of the concavity within which Bangladesh is located. The angle-bisector method produces an equitable result in that it enables Bangladesh both to reach its 200 M limit and to access its natural prolongation in the continental shelf beyond 200 M. And it accomplishes this in a manner that is equitable for Myanmar.

1.15 Beyond 200 M, a different delimitation methodology is appropriate. Both the text of UNCLOS and the relevant jurisprudence establish that the criteria applicable to the delimitation of the outer continental shelf are distinct from those pertaining in the area within 200 M. Within 200 M, the 1982 Convention makes it clear that distance from the coast is the primary determinant of entitlement. Beyond 200 M, however, that is not the case. Instead, Article 76 of UNCLOS provides that entitlement is determined by the geological and geomorphological factors that inform the juridical concept of "natural prolongation".

1.16 As demonstrated in Chapters 2 and 7, and based on well-established geological and geomorphological realities, Bangladesh has an indisputable claim to a natural prolongation well beyond 200 M from its coast on the Bay of Bengal, to an outer limit that is defined by a line drawn 100 M beyond the 2,500 metre isobath, pursuant to Article 74(5) of UNCLOS. By contrast, Myanmar has no natural prolongation into the Bay of Bengal beyond 200 M. This is demonstrated by the marked geological and geomorphological discontinuities between

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<sup>6</sup> *Delimitation of the Maritime Boundary in the Gulf of Maine Area (Canada/United States of America)*, Judgment, I.C.J. Reports 1984, p. 246.

<sup>7</sup> *Territorial and Maritime Dispute between Nicaragua and Honduras in the Caribbean Sea (Nicaragua v. Honduras)*, Judgment, I.C.J. Reports 2007.

Myanmar's land territory and the seabed and subsoil beyond 200 M. The result is that Myanmar has no entitlement in the outer continental shelf under the 1982 Convention.

\* \* \*

1.17 In presenting its case in the Chapters that follow, Bangladesh has been mindful of the fact that this is the first case in which ITLOS has been called upon to decide a maritime delimitation. There is thus no jurisprudence from the Tribunal to which Bangladesh can make reference. Although Bangladesh understands that ITLOS is free to adopt its own approach, it has taken account of the existing body of jurisprudence from both the ICJ and international arbitral tribunals developed over the course of the last four decades in formulating its presentation. It has also taken into account the approaches to the submission of factual and evidentiary materials that have been followed before other international courts and tribunals.

1.18 Bangladesh is conscious and appreciative of the Tribunal's central place in the arrangements established by the 1982 Convention for the peaceful settlement of disputes and the progressive development of the Law of the Sea, and the important role the Tribunal can play in clarifying the meaning of an "equitable solution". Bangladesh pledges its full cooperation with the Tribunal in the pursuit of these vital objectives.

## **II. Structure of the Memorial**

1.19 Bangladesh's Memorial consists of five volumes. Volume I comprises the main text of the Memorial, together with the most illustrative maps and figures, while Volumes II through IV contain supporting materials. Volume II contains a full set of maps and figures. Volumes III and IV contain documentary annexes arranged in the following order: treaties and agreements; legislation and regulations; government documents; documents pertaining to proceedings before ITLOS; UN documents; and scientific papers and manuscripts. Volume V contains the judgments of *ad hoc* arbitral tribunals concerning maritime delimitation matters, some of which are difficult to access electronically and are therefore reproduced here for the convenience of the Tribunal.

1.20 The main text of the Memorial, Volume I, consists of seven Chapters, including this Introductory Chapter, followed by Bangladesh's Submissions. **Chapter 2** describes the geographical setting of this dispute, including in particular the coastlines and other features that are relevant to the delimitation. It also addresses the geology and geomorphology of the Bay of Bengal, including the seabed and subsoil of the Bay. As will be seen, the core geographic fact of this case is the concave configuration of the Bay of Bengal's north coast. With respect to geology, the central element is the clear physical continuity between the land territory of Bangladesh, and the seabed and subsoil in the Bay. By contrast, Myanmar's landmass and the seabed of the Bay are separated by marked discontinuities, which divide Myanmar from the geology underlying the Bay beyond 50 M from its coast. These scientific realities dictate that, as between Bangladesh and Myanmar, only Bangladesh can claim a true natural prolongation in the outer continental shelf.

1.21 **Chapter 3** relates the history of the dispute, including the Parties' maritime legislation, the history of their negotiations and the extent of their respective claims in the outer continental shelf beyond 200 M. As will be shown, Bangladesh and Myanmar settled the question of their boundary in the territorial sea by agreement in 1974. They have not, however, been able to come to any similar agreement concerning the areas beyond 12 M. In addition to their competing claims within 200 M, they also have substantially overlapping claims in the outer continental shelf.

1.22 **Chapter 4** sets forth the basis of the Tribunal's jurisdiction to delimit the entire maritime boundary between Bangladesh and Myanmar. Jurisdiction arises directly from the Parties' Special Agreement, reflected in the mutual declarations referred to in paragraph 1.1 above. This Chapter also addresses the jurisdiction of the Tribunal to delimit the outer continental shelf, which is not affected by the competence of the Commission on the Limits of the Continental Shelf ("CLCS") under the 1982 Convention to make recommendations on the delineation of the outer limits of the continental margin.

1.23 **Chapter 5** addresses the delimitation of the territorial sea, and presents the legal and factual points that establish the existence and terms of the Parties' agreement concerning the location of their boundary within 12 M in 1974.

1.24 **Chapter 6** addresses the delimitation of the continental shelf within 200 M and the exclusive economic zone. It begins by reviewing the legal regime applicable to the continental shelf and EEZ with a particular emphasis on the case law relating to the delimitation of these areas. It then examines the application of the existing jurisprudence in the particular context of the northern Bay of Bengal. It sets out in detail the reasons why, in this context, equidistance does not produce the “equitable solution” required by Articles 74 and 83 of UNCLOS. This Chapter then proposes an approach that does lead to an equitable result; namely, the angle-bisector methodology that has been adopted by the ICJ and arbitral tribunals where equidistance is inappropriate. As will be seen, the angle-bisector yields a result that is consistent with the dominant geographic realities of this case and, most importantly, is fully equitable to both Parties.

1.25 **Chapter 7** addresses the factual and legal issues relating to the Parties’ entitlements in, and the delimitation of, the continental shelf beyond 200 M. The basis of entitlement beyond 200 M is the juridical concept of natural prolongation first expounded by the ICJ in the *North Sea Cases* in 1969, and subsequently incorporated into Article 76 of the 1982 Convention. For the reasons presented in this Chapter, Bangladesh has an indisputable natural prolongation into the seabed and subsoil of the Bay of Bengal that extends substantially more than 200 M from its coast. Myanmar does not. Bangladesh is therefore entitled to the entire area beyond 200 M that is disputed by these Parties.

1.26 This Memorial concludes by setting out Bangladesh’s Submissions.



## CHAPTER 2

### THE GEOGRAPHY, GEOLOGY, AND GEOMORPHOLOGY OF BANGLADESH, MYANMAR, AND THE BAY OF BENGAL

2.1 This Chapter describes the geographical, geological, and geomorphological circumstances relevant to the delimitation of the maritime boundary between Bangladesh and Myanmar in the Bay of Bengal. The geographical circumstances, and particularly those pertaining to coastal geography, are most important in the delimitation of the maritime boundary within 200 M from the Parties' coastlines. The geological and geomorphological circumstances, and particularly those pertaining to the natural prolongation of the Parties' landmasses, are most important in the delimitation of the maritime boundary in the outer continental shelf beyond 200 M.

2.2 As discussed in greater detail below, the most salient geographic circumstance pertinent to the delimitation of the maritime boundary within 200 M is the fact that Bangladesh lies within a distinct concavity at the northeastern extremity of the Bay of Bengal, and much of its coastline consists of a second, even deeper concavity within the general concavity formed by its coastline as a whole. Because of its concave coastline, Bangladesh is severely prejudiced by the equidistance lines claimed by Myanmar and India from their respective land boundary termini with Bangladesh, which intersect well within 200 M of the Bangladesh coast, cutting off its access to a full 200 M EEZ and continental shelf, and blocking it entirely from access to the outer continental shelf. Because of its unique and disadvantageous coastal geography, Bangladesh is "EEZ- and shelf-locked" by equidistance lines. This is depicted in **Figure 1.1** (following page 4).

2.3 As also discussed within, the most salient geological and geomorphological circumstances are that the seabed and subsoil beyond 200 M in the Bay of Bengal are the natural prolongation of Bangladesh's landmass, and to a lesser extent that of India, but not that of Myanmar's. As a matter of geology, the natural prolongation of Bangladesh extends hundreds of nautical miles beyond the outermost limit it claims in the outer continental shelf. By contrast, the natural prolongation of Myanmar extends no further than 50 M from its coastline into the Bay of Bengal.

## I. Geographical Circumstances

### A. The General Geographical Context for the Delimitation

2.4 Both Bangladesh and Myanmar have extensive coasts on the Bay of Bengal, which is a lobe of the Indian Ocean. It forms a roughly oval shape that measures 1,800 km at its widest point, and 1,500 km at its longest, covering an area of nearly 2.2 million sq km.

2.5 According to the International Hydrographic Organization, the Bay of Bengal is bounded on the West by the Indian subcontinent and on the East by “a line running from Cape Negrais (16°03’ N) in Burma through the larger islands of the Andaman group, in such a way that all the narrow waters between the islands lie to the Eastward of the line and are excluded from the Bay of Bengal, as far as a point in Little Andaman Island in latitude 10°48’ N, longitude 92°24’ E, and thence along the Southwest limit of the Burma Sea”.<sup>8</sup> The Bay of Bengal is bounded on the North by the coastlines of Bangladesh and India, and on the South by “Adam’s Bridge (between India and Ceylon) and from the Southern extreme of Dondra Head (South point of Ceylon) to the North Point of Poeloe Bras (5°44’ N, 95°04’ E)”.<sup>9</sup>

2.6 The Bay of Bengal, and the general area within it to be delimited in these proceedings, is depicted in **Figure 2.1** (following this page) along with the coasts of Bangladesh and Myanmar. Also shown in **Figure 2.1** is the coast of India that fronts on the Bay of Bengal.

2.7 As shown, Bangladesh is situated at the northeastern corner of the Bay of Bengal. Its entire coastline, which extends for approximately 421 km (as measured in its general direction) from the boundary with India in the west to the boundary with Myanmar in the southeast, is concave in shape. The middle third of it forms a second, even deeper concavity within this concave coastline. To the east and southeast of Bangladesh lies Myanmar, separated by the Naaf River, which forms the boundary between the two States. The land boundary terminus, agreed by the two States, lies at the midpoint of the main navigable channel of the Naaf River, where it flows into the Bay. Myanmar’s coastline along the Bay of

<sup>8</sup> International Hydrographic Organization, *Limits of Oceans and Seas* (3d ed. 1953), at p. 21. MB, Vol. III, Annex 30.

<sup>9</sup> *Ibid.* at pp. 21-22.

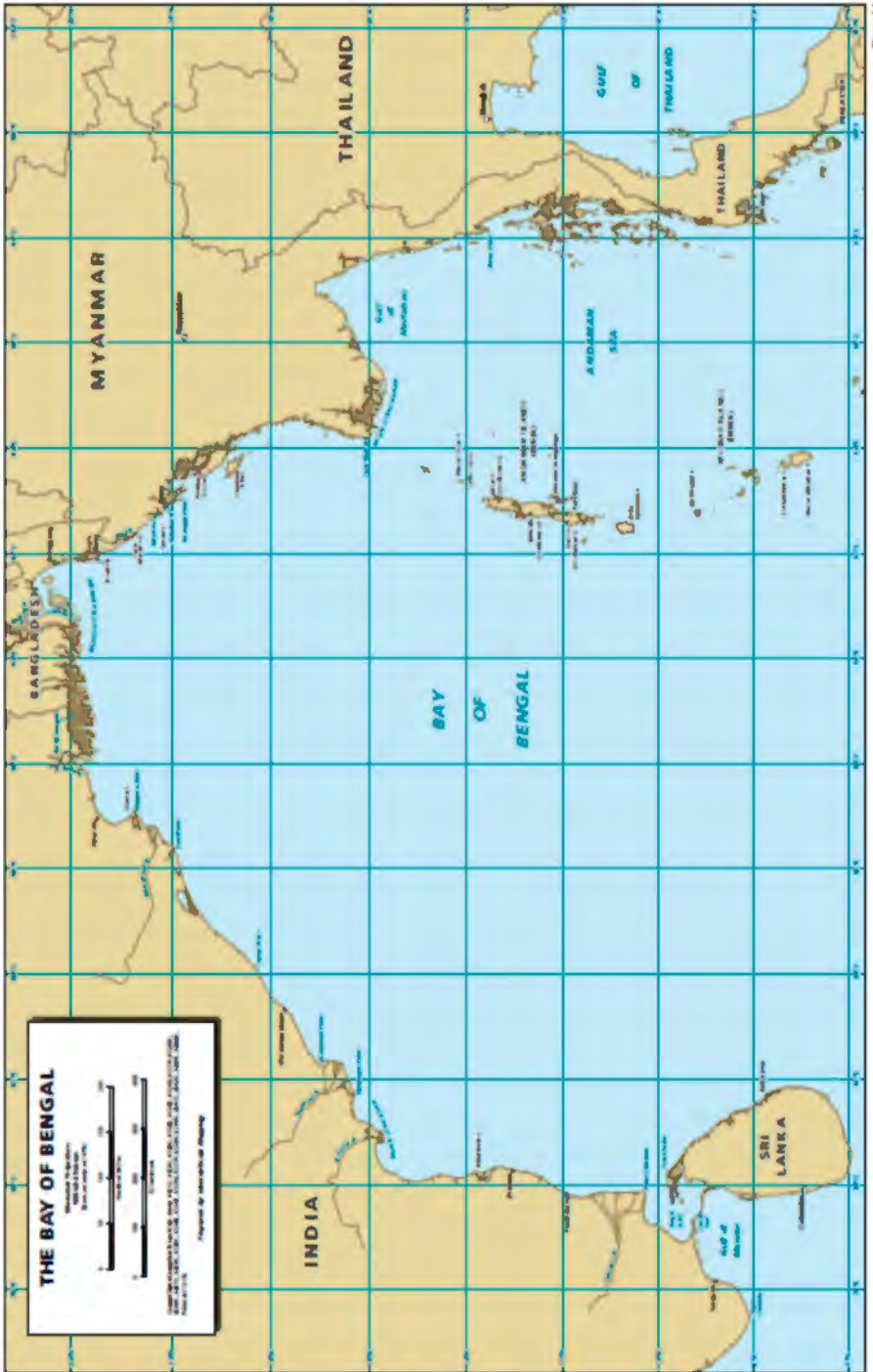


Figure 1.1

Bengal is not concave, but instead runs in a relatively straight northwest-to-southeast direction, and is marked by a number of offshore islands. The portion of Myanmar's coastline that fronts the Bay of Bengal extends for approximately 595 km, although, as explained in Chapter 6, not all of that coastline is relevant to the delimitation of the maritime boundary with Bangladesh. Completing the picture is India, situated to the west of Bangladesh, and separated from it by the Ichamati, Kalindi, Raimangal and Hariabhanga Rivers.

## B. The Geography of Bangladesh

2.8 Bangladesh's land territory covers approximately 147,570 sq km and is home to more than 160 million people. This makes Bangladesh the most densely populated country in the world that is not a city- or island-state. Its land territory forms a rough square that is bordered on three sides – west, north, and east – by India. There is also a land border with Myanmar in the southeast corner of the country. The final side of the square is Bangladesh's coastal front, which faces predominately south onto the Bay.

2.9 Besides the concave nature of its coastline, Bangladesh's most striking geographic feature is the major river system that flows through its territory into the Bay of Bengal in a north-to-south direction. Bangladesh owes its very existence to these rivers – specifically to the vast quantities of sediments they carry from the Himalayas in the north and deposit in Bangladesh. Chief among these rivers are the great Ganges and Brahmaputra Rivers, which have combined to form the Bengal Delta, the world's largest river delta – far larger than the Nile and Mississippi deltas combined – covering more than 110,000 sq km. The Bengal Delta stretches from the mouth of the Hooghly River in India to the mouth of the Meghna River in Bangladesh – a distance of some 350 km. Of this extensive surface area, 78 per cent is located in Bangladesh (with the remainder in India). All told, the Bengal Delta makes up more than half of Bangladesh's land territory.<sup>10</sup>

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<sup>10</sup> S. Kuehl et al., "The Ganges-Brahmaputra Delta", in *River Deltas – Concepts, Models, and Examples* (L. Giosan & J. Bhattacharya eds., 2005) (hereinafter "Kuehl et al. (2005)"), at p. 413. MB, Vol. IV, Annex 53.

2.10 The Bengal Delta was formed by the accumulation of Himalayan sediments carried by the Ganges and Brahmaputra river system and its precursors over millions of years.<sup>11</sup> In an average year, the river system carries nearly a *thousand million* tons of sediments towards the Bay of Bengal.<sup>12</sup> Two-thirds of these sediments are deposited in the Bay of Bengal,<sup>13</sup> but the deposition of the remaining one-third in the Delta has extended the land territory of Bangladesh more than 100 km seawards since the end of the last ice age.<sup>14</sup> The thickness of sediments and sedimentary rocks in the Delta today ranges from 12 to 24 km.<sup>15</sup> (By way of comparison, Mount Everest rises slightly less than 9 km above sea level.)

2.11 Although Himalayan sediments are responsible for the Delta's creation, they are just one of several factors controlling its size and shape. The mean elevation of the segment of the Delta bounded by the border with India (in the west), the Meghna River (in the east), the Tropic of Cancer (in the north) and the Bay of Bengal (in the south), is just three metres above sea level.<sup>16</sup> These minimal elevations make it extremely susceptible to flooding produced by monsoons, tidal streams, cyclones, and, increasingly, by sea-level rise caused by climate change. Of 15 cyclones that struck the Bay of Bengal coast between 1989 and 2000, nine of them made landfall along the northeastern coast of the Bay. The damage caused by cyclones which strike the Delta on an almost annual basis is exacerbated by the Delta's location at the head of the Bay of Bengal, and by the additional concavity created by the Meghna Estuary.<sup>17</sup> These factors all interact to constantly reshape the Delta.

<sup>11</sup> Mead A. Allison, "Geologic Framework and Environmental Status of the Ganges-Brahmaputra Delta", *Journal of Coastal Research*, Vol. 14, No. 3 (1998) (hereinafter "Allison (1998)"), at p. 829. MB, Vol. IV, Annex 45.

<sup>12</sup> Kuehl et al. (2005), at p. 413.

<sup>13</sup> G. Einsele et al., "The Himalaya-Bengal Fan Denudation-Accumulation System during the Past 20 Ma", *Journal of Geology*, Vol. 104, No. 2 (1996) (hereinafter "Einsele et al. (1996)"), at p. 179. MB, Vol. IV, Annex 40.

<sup>14</sup> S. Kuehl et al., "Subaqueous Delta of the Ganges-Brahmaputra River System", *Marine Geology*, Vol. 144, No. 1 (1997) (hereinafter "Kuehl et al. (1997)"), at p. 84. MB, Vol. IV, Annex 42.

<sup>15</sup> Joseph R. Curray, "Sediment Volume and Mass beneath the Bay of Bengal", *Earth and Planetary Science Letters*, No. 125 (1994), at p. 374. MB, Vol. IV, Annex 38.

<sup>16</sup> Allison (1998), at p. 829. MB, Vol. IV, Annex 45.

<sup>17</sup> Bangladesh experiences 40% of the storm surges in the world and was struck by 154 cyclones between 1877 and 1995 – an average of 1.28 per year. Susmita Dasgupta et al., "Vulnerability of Bangladesh to Cyclones in a Changing Climate: Potential Damages and Adaptation Cost", World Bank Policy Research Working Paper No. 5280 (April 2010). MB, Vol. IV, Annex 61.

2.12 Moving from west to east, the Bangladesh coastline between the border with India and the Meghna River is entirely deltaic. It is defined by a very large number of interconnected tidal rivers and streams, all of which are part of the larger Ganges-Brahmaputra river system. This side of the Bangladesh coast is also deeply indented and cut into, and has a great number of islands and low-tide elevations immediately offshore. The extreme western part of the Delta in Bangladesh, adjacent to the land boundary with India, is known as the Sundarbans and is covered by one of the world's largest mangrove forests, now a UNESCO World Heritage site.

2.13 Today, the western two-thirds of the Delta (from the mouth of the Hooghly River in India to the banks of Bangladesh's Haringhata River) is slowly eroding.<sup>18</sup> The current supply of sediments to that area is insufficient to counteract the combined forces of wave action, sea level rise, and tectonic subsidence.<sup>19</sup>

2.14 This does not mean that no new land is being formed in this area, however. On the contrary, new low-tide elevations and unstable deltaic islands constantly emerge – even as other similar features erode into the sea. While cyclones and other large storms that annually inundate the Delta often permanently submerge large swathes of land, they also force sediments that have been deposited just offshore back towards the shore, creating new insular features.<sup>20</sup> This is precisely what happened, for example, when a patch of sedimentary mud near the Bangladesh-India boundary known as South Talpatty emerged above the waterline in 1971 following a massive cyclone.<sup>21</sup> No sooner had the feature emerged, however, than waves and storms began to wash it back into the sea. By 1990, satellite imagery showed that it had disappeared completely. Its brief existence and subsequent disappearance is captured in the satellite images dated 1973 and 1989 reproduced as **Figure 2.2** (in Volume II only).

<sup>18</sup> Mead A. Allison, "Historical Changes in the Ganges-Brahmaputra Delta Front", *Journal of Coastal Research*, Vol. 14, No. 4 (1998) (hereinafter "Allison (1998a)"), at p. 1270. MB, Vol. IV, Annex 46.

<sup>19</sup> *Ibid.* at pp. 1269, 1274, MB, Vol. IV, Annex 46.

<sup>20</sup> M. A. Allison & E.B. Kepple, "Modern Sediment Supply to the Lower Delta Plain of the Ganges-Brahmaputra River in Bangladesh", *Geo-Marine Letters*, Vol. 21 (2001), at p. 66. MB, Vol. IV, Annex 47.

<sup>21</sup> D. Freestone et al., "Legal Implications of Global Climate Change for Bangladesh", in *Implications of Climate and Sea-Level Change for Bangladesh* (R.A. Warrick & Q.K. Ahmad eds., 1996), at pp. 12-13. MB, Vol. III, Annex 34.

2.15 The situation in the eastern third of the Delta, between the Haringhata and lower Meghna Rivers in Bangladesh, is quite different. Currently, accretion is dominant. On average, seven sq km of new land emerges from the sea every year.<sup>22</sup> Much of this new land is being formed in and around an extensive series of mud and sand shoals near the mouth of the Meghna River known as the Meghna Flats. These shoals are separated by constantly shifting shallow, muddy channels that pose a major hazard to navigation – for small as well as large vessels – in the concavity located northwest of Chittagong.<sup>23</sup>

2.16 This unusual combination of forces is constantly reshaping the Delta, making its coastline among the most unstable anywhere in the world.

2.17 Moving eastward from the Meghna River, the Bangladesh coastline makes a nearly 90-degree turn and runs south-southeast to the land boundary terminus with Myanmar. The mouth of the Meghna River near the estuary is extremely wide, measuring more than 50 M across, and creates a sizable concavity of its own, within the larger concavity formed by the entire Bangladesh coastline. There are many sedimentary islands in the estuary and along the coastline, the largest of which are Sandwip, Kutubdia, Moheskhal, and Sonadia Islands.

2.18 The coastline east and south of the lower Meghna, beginning at Cox's Bazar, is relatively straight and includes many long flat beaches. There are several offshore islands, the most significant of which is St. Martin's, which is located 6.5 M southwest of the land boundary terminus with Myanmar. This island has a mean surface area of eight sq km and supports a permanent population of 7,000 residents.<sup>24</sup> It also serves as an important base of operations for the Bangladesh Navy and Coast Guard. Fishing is the most significant economic activity on the island, rivalled by tourism. St. Martin's Island receives more than

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<sup>22</sup> Allison (1998), at p. 833. MB, Vol. IV, Annex 45.

<sup>23</sup> Rodman E. Snead, "Bangladesh", in *Encyclopedia of the World's Coastal Landforms* (Eric C.F. Bird ed., 2010), at p. 1079-1080, MB, Vol. IV, Annex 60.

<sup>24</sup> Sirajur Rahman Khan et al., "St. Martin's Island and its Environmental Issues", Geological Survey of Bangladesh (2002). MB, Vol. IV, Annex 49.

360,000 tourists annually.<sup>25</sup> The island is extensively cultivated and produces enough food to meet a significant proportion of the needs of its residents.

2.19 The southeast corner of Bangladesh, which borders Myanmar, is marked by the Chittagong Hills, the only part of Bangladesh with significant elevation above sea level. The formation of this feature is described below, in paragraphs 2.29 and 2.42.

### C. The Geography of Myanmar

2.20 Myanmar's land territory covers approximately 677,000 sq km. It is bordered by Bangladesh and India in the west and northwest, China in the north, Laos in the east, and Thailand in the south and southeast. Its population is estimated at 50 million, making it some 15 times less densely populated than Bangladesh. Its territory can be divided into three distinct regions. The western third of the country abutting the Bay of Bengal is dominated by the hills and mountains of the Rakhine Yoma and Chin Yoma ranges, both part of the larger Indo-Burman Ranges, which extend into eastern Bangladesh and northeastern India. The central part of Myanmar is the broad Central Basin which stretches from the Himalayas in the north to the Andaman Sea in the south. The eastern third of the country consists largely of the high-altitude Shan Plateau.

2.21 Myanmar's coastline on the Bay of Bengal is unremarkable, except for the presence of a number of offshore islands and rocks. In contrast to Bangladesh's coastline, Myanmar's is neither deltaic nor constantly shifting. It is not as low-lying, or as vulnerable to storms, flooding, or rising sea levels. There is no significant erosion or accretion. Of the offshore features, the closest to Bangladesh (some 26 M away) is Oyster Island, a sandy outcrop approximately 10.5 M off the Myanmar mainland that covers roughly 0.02 sq km, on which is located a lighthouse. Oyster Island has no permanent population, and none could be sustained. Nor is it capable of sustaining an economic life of its own. Further to the south are two larger inshore islands, Ramree and Cheduba, both of which are populated.

<sup>25</sup> Mohammad Mahmudul Hasan, "Tourism and Conservation of Biodiversity: A Case Study of St. Martins Island, Bangladesh", *Law, Social Justice & Global Development*, Vol. 1 (2009) (available at <[http://www2.warwick.ac.uk/fac/soc/law/elj/lgd/2009\\_1/hasan/hasan.pdf](http://www2.warwick.ac.uk/fac/soc/law/elj/lgd/2009_1/hasan/hasan.pdf)>). MB, Vol. III, Annex 36.



## II. Geological and Geomorphological Circumstances

2.22 Bangladesh and Myanmar agree that there is an extensive continental margin in the Bay of Bengal. The Parties disagree over whether this is the natural prolongation of Bangladesh or Myanmar. The geological and geomorphological evidence show that it is principally the natural prolongation of Bangladesh's landmass, and to a lesser extent of India's. By contrast, the submerged portion of Myanmar's landmass extends westward from its coastline no more than 50 M, where there is a distinct geological separation from the rest of the continental margin in the Bay of Bengal. This is based on the following geological facts:

- (i) the continental margin in the Bay of Bengal lies on the Indian tectonic plate, the same tectonic plate on which lie the landmasses of Bangladesh and India and virtually the entire seabed underlying the Bay of Bengal;
- (ii) Myanmar lies on a different tectonic plate – the Burma plate – which extends no more than 50 M into the Bay of Bengal, where it is separated from the Indian plate by a subduction zone running from north to south along the entire Myanmar coastline;
- (iii) there is a geological continuity between Bangladesh and the vast majority of the continental margin in the Bay of Bengal, and a geological discontinuity between Myanmar and that margin;
- (iv) the continental margin in the Bay of Bengal was formed (and continues to be formed) principally by the Bengal Depositional System, which over millions of years deposited the sediments in the Bay that presently form the Bengal Delta, the Bengal Fan, and virtually all of the continental margin;
- (v) this is the same system that created the landmass of Bangladesh, by depositing sediments from the Himalayas carried by the Ganges and Brahmaputra river system into what is now Bangladesh and beyond, into the Bay of Bengal; and

- (vi) thus, the sediments that make up Bangladesh are the same geologic material, with the same origin, as that which make up the continental margin.

#### A. The Indian and Burma Tectonic Plates

2.23 As described by Dr. Joseph Curray, who is widely recognized as one of the world's leading experts on the geology of the Bay of Bengal: Bangladesh, India and all but a small sliver of the Bay of Bengal sit atop the Indian tectonic plate, while Myanmar lies on the Burma tectonic plate.<sup>26</sup> The two plates meet a short distance to the west of Myanmar's coastline, where the Indian plate passes under the Burma plate, creating what is known geologically as a "subduction zone" marked by an "accretionary prism" where sediments scraped off the Indian plate as it passes under the Burma plate pile up to form major elevations. In the Bay of Bengal, this is reflected in the chain of mountains and hills extending in a north-south direction along the line (the subduction zone) where the two plates collide, and the Indian plate passes under the Burmese Plate. The meeting point of the two tectonic plates is visible on a map, as in **Figure 2.3** (following page 20), showing the chain of mountains extending from north to south along the Bangladesh/Myanmar border, and into the Bay of Bengal where they manifest themselves further to the south as, *inter alia*, the Andaman and Nicobar Islands.<sup>27</sup>

2.24 The tectonic history of the Bay of Bengal region explains how the present-day geology came to be the way it is. This geological history is generally described in terms of four phases, each contributing to the elements of the geological structure seen today. They are depicted in **Figure 2.4** (in Volume II only). The *first* phase began more than 120 million years ago with the breakup of the ancient super-continent of Gondwana. Previously, what is now the Indian subcontinent was attached to Africa, Australia, and Antarctica. Approximately 120 million years ago, however, the Indian tectonic plate separated from the Gondwana mainland

<sup>26</sup> Joseph R. Curray, "The Bengal Depositional System: The Bengal Basin and the Bay of Bengal" (23 June 2010) (hereinafter "Curray Expert Report"), at p. 1. MB, Vol. IV, Annex 37.

<sup>27</sup> *Ibid.* at p. 1.

and began drifting away.<sup>28</sup> In the process, the eastern continental margin of what is now India was formed.<sup>29</sup>

2.25 The *second* phase, between 120 and 60 million years ago, was characterized by the rapid movement of the newly-formed Indian plate, from its former position well south of the Tropic of Capricorn towards its present location north of the Equator. As the Indian plate moved north at a rate of over 10 cm per year,<sup>30</sup> the oceanic crust that underlies what is now the Bay of Bengal was formed by the process of seafloor spreading.<sup>31</sup>

2.26 During the *third* phase, between 60 and 25 million years ago, the great collision between the Indian and Eurasian plates began.<sup>32</sup> The early collision involved only the undersea continental margins of the two continents, but a “hard” collision between the two continental landmasses began to build the Himalaya Mountains starting some 44 million years ago.<sup>33</sup> The upward thrust of the new mountains along the northern edge of the Indian plate forced downward the land to their south, forming a low-lying foreland basin.<sup>34</sup> A forerunner of the Ganges River transported sediments eroded from the newly-formed mountains to this foreland basin, where some were deposited and began to form the proto-

<sup>28</sup> M. Alam et al., “An Overview of the Sedimentary Geology of the Bengal Basin in Relation to the Regional Tectonic Framework and Basin-fill History”, *Sedimentary Geology*, Vol. 155, No. 3-4 (2003) (hereinafter “Alam et al. (2003)”), at p. 184. MB, Vol. IV, Annex 50.

<sup>29</sup> C. Subrahmanyam & S. Chand, “Evolution of the Passive Continental Margins of India—A Geophysical Appraisal”, *Gondwana Research*, Vol. 10, No. 1-2 (2006), at p. 168. MB, Vol. IV, Annex 55.

<sup>30</sup> Curry Expert Report at p. 2. MB, Vol. IV, Annex 37. This rate is very high for continental drift. Most continental movements are in the range of two to seven centimetres per year.

<sup>31</sup> D. Rao et al., “Crustal Evolution and Sedimentation History of the Bay of Bengal Since the Cretaceous”, *Journal of Geophysical Research*, Vol. 102, No. B8 (1997), at p. 17747. MB, Vol. IV, Annex 43. Seafloor spreading is the name given to the process by which oceanic crust is formed. Magma from the Earth’s mantle breaks through the thinned-out crust along the length of an oceanic rift zone to form dense, basaltic rock. The force of the upwelling magma drives the entire process of plate tectonics.

<sup>32</sup> Alam et al. (2003), at p. 188. MB, Vol. IV, Annex 50.

<sup>33</sup> *Ibid.*

<sup>34</sup> A. Mukherjee et al., “Geologic, Geomorphic and Hydrologic Framework and Evolution of the Bengal Basin, India and Bangladesh”, *Journal of Asian Earth Sciences*, Vol. 34, No. 3 (2009) (hereinafter “Mukherjee et al. (2009)”), at p. 228. MB, Vol. IV, Annex 58.

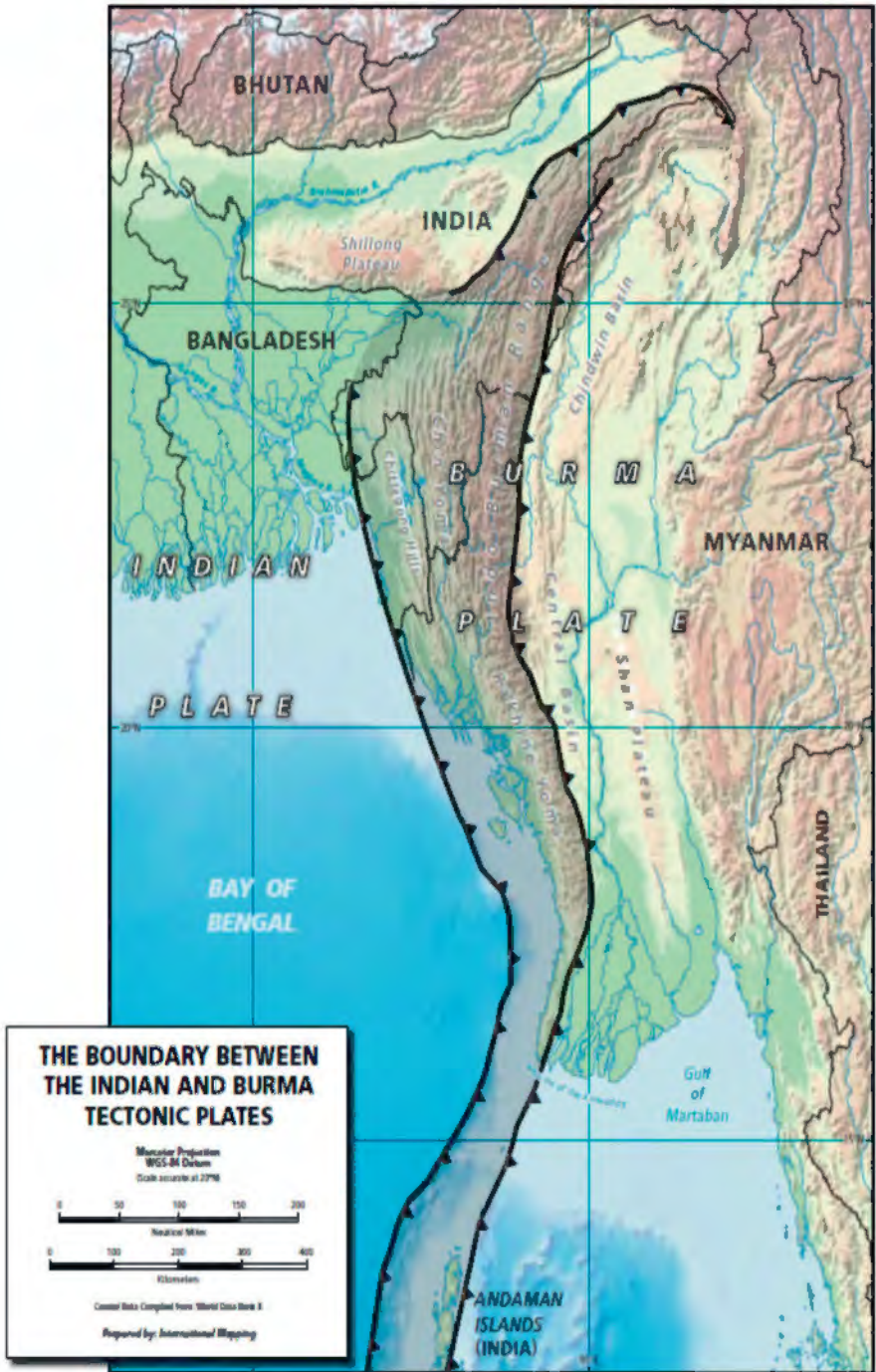


Figure 2.3

Bengal Delta<sup>35</sup> and its deep water extension: the Bengal Fan<sup>36</sup> (described below in paragraph 2.35 and following).

2.27 The *fourth* phase, which began 25 million years ago and continues to the present day, is dominated by the ongoing, landmass-to-landmass collision of the Indian and Eurasian plates. As India thrusts into Eurasia, the Himalayas continue to grow upwards by as much as seven millimetres per year.<sup>37</sup> However, as a result of the powerful effects of South Asia's annual monsoon rains, the Himalayas also erode and shed increasing volumes of sediments that are transported by the Ganges-Brahmaputra river system to the Bengal Delta and beyond, into the Bay.

2.28 Also beginning about 25 million years ago, the Indian plate began to collide with the Burma plate, on which modern-day Myanmar's western hills and Central Basin are located.<sup>38</sup> In contrast to the landmass-to-landmass collision between the Indian and Eurasian plates, the collision of the Indian and Burma plates is between the oceanic crust under the Bay of Bengal and the continental crust of the Burma plate.<sup>39</sup> In the process, the Bay's oceanic crust is sliding underneath Myanmar's continental crust, producing a subduction zone known as the Sunda Subduction Zone that runs from south to north along the western coast of Myanmar up into the eastern-most portions of Bangladesh.<sup>40</sup>

2.29 As the oceanic crust of the Indian plate subducts under the Burma plate, the sediments on the former have been scraped off and accreted – essentially piled up – onto the latter to form a tightly-folded series of hills known as an “accretionary wedge” or “accretionary

<sup>35</sup> A. Uddin & N. Lundberg, “Miocene Sedimentation and Subsidence During Continent–Continent Collision, Bengal Basin, Bangladesh”, *Sedimentary Geology*, Vol. 164, No. 1-2 (2004), at p. 137. MB, Vol. IV, Annex 51.

<sup>36</sup> Joseph R. Curray et al., “The Bengal Fan: Morphology, Geometry, Stratigraphy, History and Processes”, *Marine and Petroleum Geology*, Vol. 19, No. 10 (2002) (hereinafter “Curray et al. (2002)”), at p. 1195. MB, Vol. IV, Annex 48.

<sup>37</sup> R. Bilham et al., “GPS Measurements of Present-day Convergence Across the Nepal Himalaya”, *Nature*, Vol. 386 (6 March 1997), at p. 62. MB, Vol. IV, Annex 41.

<sup>38</sup> Alam et al. (2003), at pp. 187-188. MB, Vol. IV, Annex 50; Tung-Yi Lee & Lawrence A. Lawver, “Cenozoic Plate Reconstruction of Southeast Asia”, *Tectonophysics*, Vol. 251 (1995), at pp. 132-134. MB, Vol. IV, Annex 39.

<sup>39</sup> M. S. Steckler et al., “Collision of the Ganges-Brahmaputra Delta with the Burma Arc: Implications for Earthquake Hazard”, *Earth and Planetary Science Letters*, Vol. 273 (2008) (hereinafter “Steckler et al. (2008)”), at p. 367. MB, Vol. IV, Annex 56.

<sup>40</sup> Curray Expert Report (2010), at p. 1. MB, Vol. IV, Annex 37.

prism”.<sup>41</sup> This accretionary prism can be seen today in the Chittagong Hills in Bangladesh and segments of the Rakhine Yoma range in Myanmar.<sup>42</sup>

2.30 The interaction of these tectonic forces over time has produced three distinct geological provinces in the area in and around the Bay of Bengal as it exists today. *First*, to the west is the continental landmass of India, which is bounded on the north by the Himalayas and on the east by the Bay of Bengal. Northwestern Bangladesh is part of this geological province, which sits on the continental crust of the Indian tectonic plate. *Second*, in the centre lies the vast oceanic crust of most of the Bay of Bengal formed by seafloor spreading as the Indian plate rifted away from the Australian and Antarctic plates. This crust is overlain by the Bengal Delta, which forms most of Bangladesh, and by the Bengal Fan, which covers most of the Bay of Bengal. This geological province also sits on the Indian plate. *Third*, in the east lies the province formed by the Burma plate, which is separated from the oceanic crust underlying the Bay of Bengal by the north-south subduction zone. The tightly folded hills of the accretionary wedge sit atop this plate. These three geological provinces are depicted in **Figure 2.5** (in Volume II only).

2.31 Bangladesh alone straddles all three of these geological provinces: (1) the northwestern-most part of the Bangladesh landmass overlies the *continental crust of the Indian plate* (on which the Indian landmass also lies); (2) the deltaic areas of Bangladesh, lying between the land boundary with India in the west and the Meghna River in the east, have been built out of the sea on top of the *oceanic crust of the Indian plate* underlying the Bay of Bengal; and (3) the narrow part of Bangladesh lying between the Meghna River and the land boundary with Myanmar, which includes the Chittagong Hills, straddles the edge of the *Burma plate* (on which Myanmar’s landmass lies).<sup>43</sup>

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<sup>41</sup> Steckler et al. (2008), at p. 367. MB, Vol. IV, Annex 56.

<sup>42</sup> C. Nielsen et al., “From Partial to Full Strain Partitioning along the Indo-Burmese Hyper-oblique Subduction”, *Marine Geology*, Vol. 209 (2004) (hereinafter “Nielsen et al. (2004)”), at p. 303. MB, Vol. IV, Annex 52.

<sup>43</sup> Alam et al. (2003), at pp. 202-04. MB, Vol. IV, Annex 39.

## B. The Bengal Depositional System

2.32 As described by Professor Curray, the “Bengal Depositional System” is a single, integrated system that unites the Bangladesh landmass and the Bay of Bengal seafloor as far south as Sri Lanka and beyond.<sup>44</sup> The same circumstances that have produced and continue to augment the Bengal Delta – the erosion of the Himalaya Mountains in the north and the transport southward of their sediments by the Ganges-Brahmaputra river system – also deposit sediments in the Bay of Bengal, resulting in the extension undersea of the Bengal Delta (the “subaqueous delta”) and the feature lying further seaward known as the Bengal Fan (see paragraphs 2.35 and following), which constitutes nearly the entire continental margin in the Bay. This enormous river system flowing through Bangladesh has contributed as much as twenty times more sediments to the Bengal Fan than the rivers of peninsular India that flow into the Bay.<sup>45</sup> There is no evidence of a measurable sedimentary contribution of Myanmar’s rivers to the Fan. The Bengal Depositional System is depicted in **Figure 2.6** (following page 24) and in Professor Curray’s report.<sup>46</sup>

### 1. *The Subaqueous Bengal Delta*

2.33 Paragraphs 2.9 through 2.16 describe the parts of the Bengal Delta above sea level, extending northward from Bangladesh’s coastline. But the Bengal Delta does not end at the coastline: as much as one-fourth of it lies submerged beneath the waters of the Bay of Bengal. This submerged portion of the Bengal Delta is known technically as the “subaqueous delta” and extends as much as 80 M from the current shoreline<sup>47</sup> to roughly the 80 metre isobath.<sup>48</sup> It forms the greater part of the physical continental shelf in this area and extends most of the way to the physical shelf edge. The rest of the shelf beyond 80 M was also built by the Ganges-Brahmaputra river system and its precursors flowing through Bangladesh.

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<sup>44</sup> Curray Expert Report (2010), at p. 1 and Figure 22. MB, Vol. IV, Annex 37.

<sup>45</sup> Einsele et al. (1996), at p. 179. MB, Vol. IV, Annex 40.

<sup>46</sup> Curray Expert Report (2010), at Figure 22. MB, Vol. IV, Annex 37.

<sup>47</sup> Kuehl et al. (2005), at p. 425. MB, Vol. IV, Annex 53.

<sup>48</sup> Kuehl et al. (1997), at p. 88. MB, Vol. IV, Annex 42.

2.34 The submerged Bengal Delta is a continuation or extension of the onshore Delta. Similar geomorphological processes to those that are taking place in the onshore portion of the Delta – sedimentary deposition, and tide and storm erosion – are also taking place in the submerged Delta.<sup>49</sup> The only difference between them is that the submerged Delta is covered by shallow water. Even then, the line between the onshore Delta and its submerged prolongation is in a perpetual state of flux; new deltaic islands and low-tide elevations are constantly being formed where none existed, and old ones are constantly being eroded until they no longer rise above sea level.

## 2. The Bengal Fan

2.35 The Bengal Depositional System does not end at the outer edge of the submerged Bengal Delta. Beyond the geological shelf break in the Bay of Bengal, there lies another immense sedimentary feature known as the Bengal Fan. The Bengal Fan represents the further seaward extension of the same processes of sedimentary deposition that have built up the Bengal Delta, both on and off shore. Other large rivers, such as the Amazon and Congo, have also built up large fan-shape sedimentary deposits in the ocean beyond their mouths. None, however, comes close to matching the Bengal Fan in terms of mass, area, or volume.

2.36 The Bengal Fan extends more than 1,500 M from the base of the continental slope off the coast of Bangladesh and India (defined by the 1,400 metre isobath) to the area southeast of Sri Lanka at around seven degrees south latitude.<sup>50</sup> The Fan has a total surface area of some 3,000,000 sq km – an area larger than the Bay of Bengal itself.

2.37 The Fan comprises layers of sedimentary rock ranging in thickness from more than 16.5 km near the base of the continental slope to less than 1 km south of the Equator, which is beyond the limits of the Bay of Bengal.<sup>51</sup> The total volume of the sedimentary material contained in the Fan has been estimated at 12.5 million cubic km.<sup>52</sup> This is a sufficient

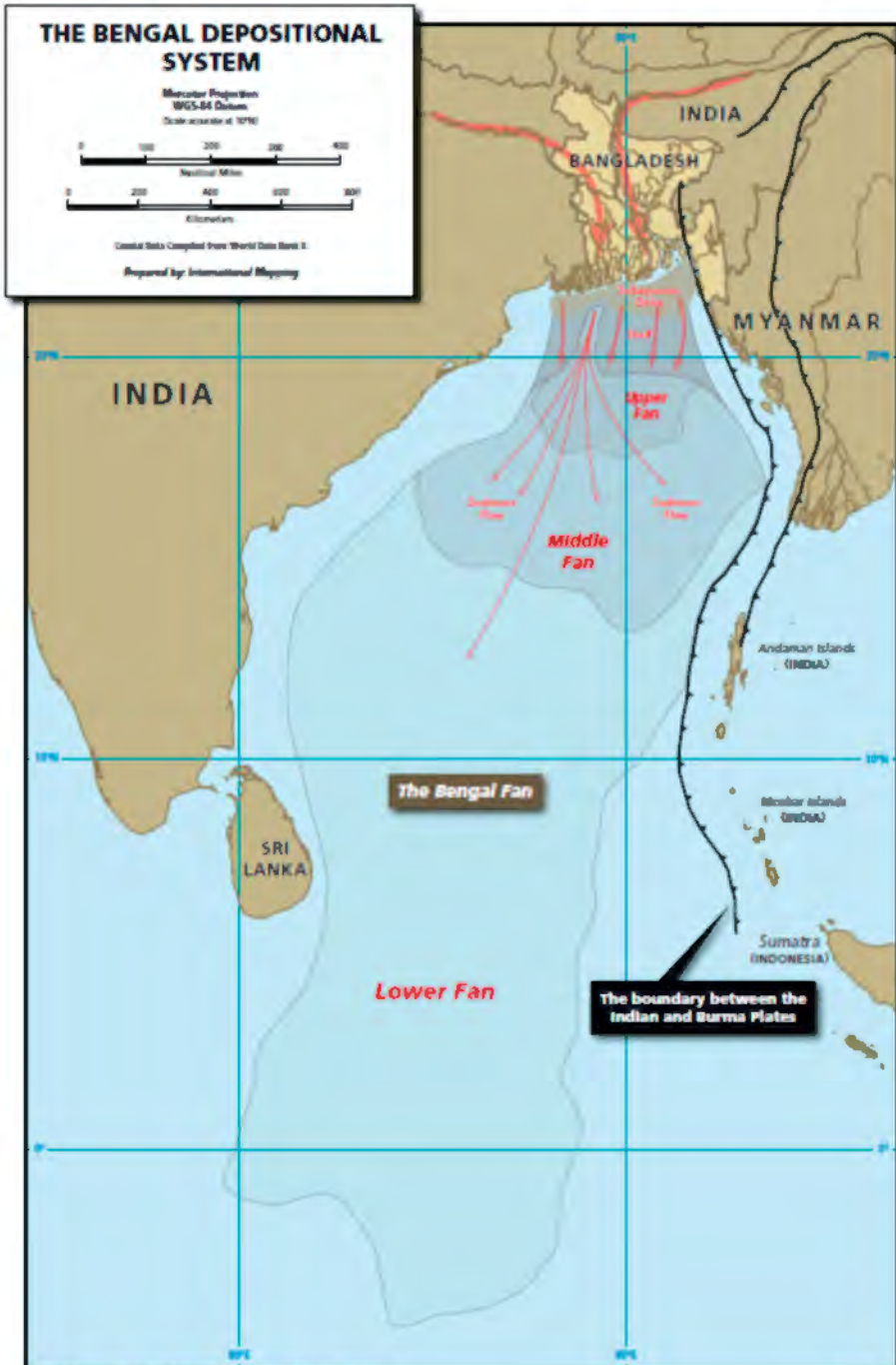
<sup>49</sup> See generally Kuehl et al. (1997). MB, Vol. IV, Annex 42.

<sup>50</sup> Curray Expert Report (2010), at p. 5. MB, Vol. IV, Annex 37.

<sup>51</sup> Curray et al. (2002), at p. 1200. MB, Vol. IV, Annex 48.

<sup>52</sup> *Ibid.* at p. 1198.





Source: Adapted from Joseph R. Gurray, "The Bengal Depositional System: The Bengal Basin and the Bay of Bengal," 23 June 2010, Figure 22.

Figure 2.6

volume of material to cover the entire European continent in a layer of sediments one km thick.

2.38 The Bengal Depositional System renders the bathymetry of the Bay unusually smooth and, unlike most other ocean basins, in that the bathymetric contours run in an east-west direction, reflecting that the sediments are being transported to the Bay from the north to the south. This unusual bathymetry is depicted in **Figure 2.7** (in Volume II only). In recognition of the special characteristics of the Bay, the States Parties to the Third United Nations Conference on the Law of the Sea adopted a “Statement of Understanding Concerning a Specific Method to be Used in Establishing the Outer Edge of the Continental Margin” in the Bay of Bengal. This Statement of Understanding, which was included as Annex II to the Final Act of the 1982 Convention, is the only UNCLOS provision that refers explicitly to a particular body of water.

2.39 As indicated, the vast majority of the sediments deposited in the Bengal Fan over the last 20 million years are of Himalayan origin.<sup>53</sup> The Fan therefore has not only been created by processes similar to those that have given rise to the Bengal Delta, it is overwhelmingly comprised of precisely the same sedimentary material that makes up the landmass of Bangladesh itself.

2.40 As for Myanmar, its sedimentary contribution to the Bengal Fan is insignificant, due to the lack of major rivers flowing from its landmass into the Bay. As Professor Curray explains, “[t]he major rivers of Myanmar drain into the Andaman Sea behind the Andaman-Nicobar Ridge and islands”, with the result that its erosion products “are caught behind the outer islands and accretionary prism ridge lying offshore”.<sup>54</sup>

2.41 The discontinuities between Myanmar’s land territory and the Bengal Fan run deeper still. Although it is contiguous to the Bengal Depositional System, the coast of Myanmar is

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<sup>53</sup> Einsele et al. (1996), at p. 179. MB, Vol. IV, Annex 40. Himalayan sediments are easily identified because they are chemically distinct from those originating from other regions that drain into the Bay of Bengal, such as the southern peninsula of India. See G. S. Roonwal et al., “Mineralogy and Geochemistry of Surface Sediments from the Bengal Fan, Indian Ocean”, *Journal of Asian Earth Sciences*, Vol. 15, No. 1 (1997), at pp. 33-41. MB, Vol. IV, Annex 44.

<sup>54</sup> Curray Expert Report (2010), at p. 3. MB, Vol. IV, Annex 37.

part of a distinct Myanmar Depositional System whose “origin and hence geology are very different”.<sup>55</sup> Indeed, the boundary between the two is dramatic. Unlike the smooth, gently sloping surfaces that characterize the Bengal Depositional System, the western portions of Myanmar and the Burma plate on which it sits are characterized by hilly and mountainous terrain that rises abruptly from the coast and continues for hundreds of kilometres inland. West of the coastline, the bathymetry confirms that Myanmar’s continental landmass extends only up to 50 M into the Bay of Bengal, where the Burma plate ends and an accretionary prism and subduction trench mark its boundary with the Indian plate, on which the Bengal Fan and the vast majority of the continental shelf sit.

2.42 These coastal hills and mountains are the “accretionary prism” resulting from the subduction of the oceanic crust of the India Plate underneath the Burma plate.<sup>56</sup> In Myanmar, the prism starts at an apex just south of Cheduba Island and widens northward to form a broad triangle that is nearly 300 km wide in the Chittagong division of Bangladesh and adjacent areas of northeastern India. The leading edge of this prism forms the low hills that rise along the entire Rakhine (west) coast of Myanmar and the eastern border of Bangladesh.

2.43 The process that created these hills and mountains can be compared to the way in which a wedge-shaped mound of earth builds up in front of an advancing bulldozer. Although the sedimentary material making up Myanmar’s western hills and mountains may once have been on the seafloor of the Indian plate, it no longer shares the physical characteristics of the sediment at the bottom of the Bay of Bengal. Just as the encounter with a bulldozer deforms smooth earth into irregular, densely packed clumps, so too the formerly undisturbed sediment has been deformed and compressed by the heat and pressure of the subduction/accretion process.<sup>57</sup> It has been crushed and folded into the range of tightly-spaced hills that can be seen today.

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<sup>55</sup> *Ibid.* at p. 2. MB, Vol. IV, Annex 37. The Chittagong coast of Bangladesh, which stretches from the mouth of the Meghna River in the north to the Naaf River in the south and shares these same hilly characteristics, is also located on the Burma plate.

<sup>56</sup> R. Allen et al., “Provenance of the Tertiary sedimentary rocks of the Indo-Burman Ranges, Burma (Myanmar): Burman arc or Himalayan-derived?”, *Journal of the Geological Society*, Vol. 165 (2008), at p. 1045. MB, Vol. IV, Annex 57.

<sup>57</sup> K. Zahid & A. Uddin, “Influence of Overpressure on Formation Velocity Evaluation of Neogene Strata from the Eastern Bengal Basin, Bangladesh”, *Journal of Asian Earth Sciences*, Vol. 25, No. 3 (2005), at p. 419. MB, Vol. IV, Annex 54.

2.44 The islands that dot Myanmar's Rakhine coast were formed by this same process. These islands represent the peaks of the outer-most folds of the accretionary prism; the troughs between them are not high enough to rise above present-day sea levels.<sup>58</sup> When global sea levels were lower, as they were during the last ice age, islands such as Cheduba and Ramree were connected to the land and indistinguishable from the terrain of the rest of this region.

2.45 Subduction zones like that between the Indian and Burma plates typically produce a deep trench seaward of the overriding continental landmass, and this one is no different. The trench runs from the southern coast of Sumatra all the way to the Andaman and Nicobar Islands. North of these islands, it is partially masked by the sediments that form the accretionary prism. Seismic imaging shows that that the obscured trench is actually quite deep and located within 50 M of Myanmar's Rakhine (west) coast.<sup>59</sup>

### Conclusions

2.46 The technical and scientific evidence shows conclusively that:

- (i) Bangladesh is disadvantaged by its unique coastal geography, especially its concave coastline at the northeastern corner of the Bay of Bengal, which produces a severe cut-off of its coastal projection by application of equidistance boundary lines as have been proposed by Myanmar and India, and deprive it of significant portions of its EEZ and continental shelf, including its entire continental shelf beyond 200 M;
- (ii) most of the Bangladesh coastline on the Bay of Bengal is deltaic, indented, and cut into, and subject to constant processes of erosion and accretion, rendering it among the most unstable coastlines in the world; and

<sup>58</sup> Thomas Maurin & Claude Rangin, "Structure and Kinematics of the Indo-Burmese Wedge: Recent Fast Growth of the Outer Wedge", *Tectonics*, Vol. 28 (2009), at pp. 3, 9-10. MB, Vol. IV, Annex 59.

<sup>59</sup> Nielsen et al. (2004), at pp. 304, 307. MB, Vol. IV, Annex 52.

- (iii) the continental shelf beyond 200 M in the Bay of Bengal is the natural prolongation of Bangladesh, and to a lesser extent of India, but is not the natural prolongation of Myanmar.

**CHAPTER 3****THE HISTORY OF THE DISPUTE**

3.1 This Chapter describes the genesis and history of the dispute between Bangladesh and Myanmar concerning their maritime boundary in the Bay of Bengal. It is presented in four sections. **Section I** introduces and discusses the Parties' maritime legislation, which identify and delimit the maritime zones that they claim, and the coastal baselines from which these zones are measured. **Section II** describes the Parties' efforts to negotiate a comprehensive maritime boundary agreement over the course of the last 36 years. They achieved limited success. In 1974, Bangladesh and Myanmar specifically agreed as to the point of origin and course of their boundary in the territorial sea to a distance of 12 M from their respective coasts. What they have been unable to agree, and what remains for ITLOS to delimit, is the course of their maritime boundary in the EEZ and the continental shelf, including those portions of the shelf that lie beyond 200 M. **Section III** describes the substantially overlapping claims Bangladesh and Myanmar have each made in the continental shelf beyond 200 M (the "outer continental shelf"). Myanmar made its submission to the Commission on the Limits of the Continental Shelf on 16 December 2008. Bangladesh has until July 2011 to make a submission, in conformity with the 10-year period allotted to it by Article 4 of Annex II of UNCLOS.

**I. The Parties' Maritime Legislation****A. Bangladesh**

3.2 Bangladesh declared its independence as a sovereign State on 26 March 1971, when it seceded from Pakistan. Three years later, on 14 February 1974, Bangladesh enacted its *Territorial Waters and Maritime Zones Act*.<sup>60</sup> In the Act, Bangladesh established a 6 M contiguous zone and a continental shelf extending to the outer limits of the continental margin. It also claimed a territorial sea and an "economic zone" but left the extent of these areas for subsequent definition by notification in the official Gazette. On 13 April 1974,

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<sup>60</sup> Bangladesh Territorial Waters and Maritime Zones Act, 1974 (Act No. XXVI of 1974) (14 February 1974). MB, Vol. III, Annex 10.

Bangladesh issued the requisite notification, in which it claimed a territorial sea out to 12 M and an economic zone extending to 200 M.<sup>61</sup>

3.3 In the same 1974 notification, Bangladesh declared a system of straight baselines. The baselines consisted of straight lines connecting eight base points, all of which were located seaward of the low-water line, along the 10 fathom depth contour.<sup>62</sup> In declaring these baselines, Bangladesh relied on expert advice from the Commonwealth Secretariat and distinguished international lawyers, including Sir Robert Jennings and Professor Daniel O'Connell.

3.4 Bangladesh's 1974 baselines were conceived as a functional solution for addressing the unique character of the Bangladesh coastline, and adopted at a time when the law concerning straight baselines was undergoing a process of active debate in the lead-up to UNCLOS. As described in Chapter 2, Bangladesh is a deltaic country and almost all of its territory constitutes a drainage basin. As a result, its coastline is in a perpetual state of flux, subject to the strong influence of natural elements and dominated by its regional hydrology. Its coastline changes year-to-year. Shoals, islands, and low-tide elevations are constantly appearing, shifting, disappearing and reappearing. The near shore sea is extremely shallow and quite literally filled with sediments, rendering large portions of it unnavigable to ocean-going ships and dangerous even to small vessels. It is, in many respects, neither fully water nor land, but rather partakes of elements of both, since it is the subaqueous portion of the Bengal Delta.

3.5 Further complicating an already complex situation are the extraordinary tidal swings in the waterline. On any given day, Bangladesh's low tide and high tide can be 60 to 70 M apart. The shore areas experience severe adverse natural conditions, including river flooding, heavy rainfall (especially during frequent cyclones), and continuous erosion. Because the

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<sup>61</sup> Bangladesh Ministry of Foreign Affairs, *Notification No. LT-1-3-7* (13 April 1974). MB, Vol. III, Annex 11.

<sup>62</sup> *Ibid.* The one exception is the eastern-most of the base points, Point No. 8, located west of Cox's Bazaar, where there is a deep landward indentation of the isobath. The coordinates of all eight base points are: Point No. 1 - 21° 12' 00" N / 89° 06' 45" E; Point No. 2 - 21° 15' 00" N / 89° 16' 00" E; Point No. 3 - 21° 29' 00" N / 89° 36' 00" E; Point No. 4 - 21° 21' 00" N / 89° 55' 00" E; Point No. 5 - 21° 11' 00" N / 90° 33' 00" E; Point No. 6 - 21° 07' 30" N / 91° 06' 00" E; Point No. 7 - 21° 10' 00" N / 91° 56' 00" E; Point No. 8 - 20° 21' 45" N / 92° 17' 30" E.

low-water line is constantly changing, it is extremely difficult to establish relevant base points along it.

3.6 Under the circumstances, Bangladesh's 1974 baselines were intended to reflect a practical approach to a particular geographic reality. As Bangladesh explained at the 1974 Caracas Session of the Third Conference on the Law of the Sea, it drew these baselines in the manner it did because:

- (1) The estuary of Bangladesh is such that no stable water line or demarcation of landward and seaward area exists;
- (2) The continual process of alluvion and sedimentation forms mud-banks and the area is so shallow as to be non-navigable by other than small boats; [and]
- (3) The navigable channels of land through the aforesaid banks are continuously changing their courses and require soundings and demarcation so that they pertain to the character of the river mouths and inland waters.<sup>63</sup>

3.7 Having devised this approach, Bangladesh offered it for inclusion in UNCLOS, which was then in negotiation. Its proposals were only partially accepted, however. In the end, Bangladesh was unable to persuade other States' delegates to sign on to the idea of permitting straight baselines to be drawn from points determined by a depth-based method. It did, however, succeed in obtaining the inclusion of a new subparagraph 7(2) included in the 1982 Convention, which states:

Where because of the presence of a delta and other natural conditions the coastline is highly unstable, the appropriate points may be selected along the furthest seaward extent of the low-water line and, notwithstanding subsequent regression of the low-water line, the straight baselines shall remain effective until changed by the coastal State in accordance with this Convention.

3.8 As Professors Reisman and Westerman have observed, this provision "in effect, allows baselines to be established offshore, as Bangladesh had urged".<sup>64</sup>

<sup>63</sup> Renate Platzöder, *Third United Nations Conference on the Law of the Sea: Documents*, Vol. IV (1982), at pp. 180-181. MB, Vol. III, Annex 27.

<sup>64</sup> W. Michael Reisman & Gayl S. Westerman, *Straight Baselines in Maritime Boundary Delimitation* (1992), at p. 69. MB, Vol. III, Annex 31.



3.9 Nevertheless, Bangladesh recognizes that because its 1974 baselines were drawn along the 10 fathom line, they do not conform to the terms of the later-adopted 1982 Convention. It therefore does not rely on them for purposes of this maritime delimitation with Myanmar. Instead, for delimitation purposes, it relies only on base points along its coast on the Bay of Bengal, in conformity with UNCLOS. This is reflected in Chapters 5, 6 and 7 addressing the delimitation in the territorial sea, exclusive economic zone and continental shelf to a distance of 200 M, and the outer continental shelf beyond 200 M, respectively.

#### B. Myanmar

3.10 Myanmar achieved independence from the United Kingdom on 4 January 1948. It was then known as the Union of Burma. For stylistic convenience, Bangladesh will refer to its neighbour State as “Myanmar” without regard to time period.

3.11 Myanmar first declared its baselines on 15 November 1968.<sup>65</sup> The 1968 Declaration claimed a series of straight baselines along Myanmar’s Bay of Bengal and Andaman Sea coast. A schedule accompanying the Declaration indicated that these straight line segments purported to connect points as far as 222 M apart, across the Gulf of Martaban.<sup>66</sup>

3.12 In April 1977, Myanmar passed its *Territorial Sea and Maritime Zones Law*, which remains in effect today. The 1977 Act established a territorial sea of 12 M, a contiguous zone up to 24 M, an EEZ of 200 M, and a continental shelf that extends to the outer edge of the continental margin or to a distance of 200 M when the continental margin does not reach that distance.<sup>67</sup> The straight baselines declared in 1968 remained largely intact, subject to slight modifications.

3.13 More than 30 years later, in December 2008, Myanmar deposited geographic coordinates with the United Nations including additional straight baselines in the area of the

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<sup>65</sup> Myanmar Ministry of Foreign Affairs, *Declaration of Baselines* (15 November 1968) (hereinafter “Myanmar 1968 Baseline Declaration”). MB, Vol. III, Annex 9.

<sup>66</sup> *Ibid.*

<sup>67</sup> Myanmar Territorial Sea and Maritime Zones Law (Pyithu Hluttaw Law No. 3 of 1977), at chaps. II-V. MB, Vol. III, Annex 12.

Preparis and Coco Islands.<sup>68</sup> **Figure 3.1** (in Volume II only) depicts the straight baselines Myanmar has claimed on its Bay of Bengal coast. The straight baselines Myanmar claims along its northern coast consist of ten segments connecting 11 points from the southern tip of Oyster Island in the north to Alguada Reef off Cape Negrais in the south.

3.14 None of Myanmar's straight baselines is consistent with the provisions of Article 7 of the 1982 Convention.<sup>69</sup> According to Article 7, straight baselines are only appropriate in three circumstances: (1) if the coastline is deeply indented and cut into, (2) if there is a fringe of islands along the coast in its immediate vicinity, or (3) if the coastline is highly unstable as a result of natural conditions, such as the presence of a delta. Myanmar's coast meets none of these conditions. The first (a deeply indented coast) and third (an unstable coast) are plainly not applicable. As described in Chapter 2, Myanmar's coast in this area is unremarkable.

3.15 As for the second condition (that there be a fringe of islands off the coast), Myanmar's northern offshore islands (including Cheduba, Ye Kyun, and Nantha Kyun) cannot properly be considered a "fringe of islands" within the meaning of Article 7. Although UNCLOS does not define these words, and no international court or tribunal has addressed the question directly, Article 7 plainly contemplates more than an ordinary scattering of islands or rocks off a State's coast. Indeed, the origin of the "fringe of islands" concept shows that it was intended to address a much more specific and complex cluster of islands than the unremarkable insular features of Myanmar's coastal waters.

3.16 Article 4 of the 1958 Geneva Convention on the Territorial Sea adopted the term "fringe of islands" and largely codified the decision of the International Court of Justice in the *Anglo-Norwegian Fisheries* case, which endorsed Norway's use of straight baselines in light of the thousands of islands, rocks, and islets that blanket its coastline, referred to in Norwegian as the "skjærgaard".<sup>70</sup> Article 4 of the 1958 Territorial Sea Convention replaced the *Fisheries* decision's reference to "skjærgaard" with "fringe of islands", but nonetheless

<sup>68</sup> Myanmar Law Amending the Territorial Sea and Maritime Zones Law (State Peace and Development Council Law No. 8/2008) (5 December 2008). MB, Vol. III, Annex 13.

<sup>69</sup> Although Bangladesh, together with other States and law of the sea experts, question the validity of Myanmar's straight baselines further south, they lie outside the Bay of Bengal and are thus well beyond the scope of this case. As such, Bangladesh will not address them here.

<sup>70</sup> *Fisheries case (United Kingdom v. Norway)*, Judgment, ICJ Reports 1951, p. 116, at pp. 127-132 (for description), at p. 143 (for judgment).

the interpretation of the latter continued to be informed by the former. One need only glance at a map to see that the islands off Myanmar's coast bear scant resemblance to the authentic fringe of islands off Norway's coast. Myanmar thus has no legitimate basis on which to claim straight baselines in the Bay of Bengal.

3.17 Another problem with Myanmar's straight baselines in this area is that they do not conform to the requirements of Article 7(3) of the 1982 Convention, which states that those lines "must not depart to any appreciable extent from the general direction of the coastline, and the sea areas lying within the lines must be sufficiently closely linked to the land domain to be subject to the regime of internal waters". Myanmar's baselines satisfy neither of these conditions. *First*, they depart markedly from the general direction of Myanmar's coast. *Second*, several of Myanmar's base-points are located up to 20 M off-shore, and thus are not at all linked, much less closely linked, to the land domain to be considered internal waters. In skipping from seaward island to seaward island, Myanmar's organizing principle seems to have been simply to claim as much maritime space to be internal waters as possible.

3.18 For these reasons, Bangladesh and other States have objected to Myanmar's baselines. In response to Myanmar's most recent straight baseline claim, for instance, Bangladesh sent a Note Verbale dated 6 July 2009 to the Secretary General of the United Nations in which it stated:

[B]oth the notifications specifying coordinates of straight baselines to measure Myanmar's territorial sea, contiguous zone, exclusive economic zone and continental shelf in the Bay of Bengal do not conform to the established rules of international law applicable to the matter, as reflected in Article 4 of the Geneva Convention on the Territorial Sea and Contiguous Zone 1958 and Article 7 of the United Nations Convention on [the] Law of the Sea ...<sup>71</sup>

3.19 Myanmar's baselines have also drawn criticism from other States, including the United States of America and the United Kingdom. The United States officially protested Myanmar's straight baselines in 1982, stating that "the straight baselines of the system adopted by the Government of Burma depart to an appreciable extent from the general

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<sup>71</sup> *Note Verbale* from the Permanent Mission of Bangladesh to the Secretary-General of the United Nations, No. PMBNY-UNCLOS/2009-3135 (6 July 2009). MB, Vol. III, Annex 20.

direction of the coast of Burma and [], therefore, the system does not comport with international law".<sup>72</sup> The United Kingdom issued a similar protest.<sup>73</sup>

3.20 Accordingly, just as Bangladesh does not rely on its own existing straight baselines, Myanmar's straight baselines too should not be used for purposes of the delimitation now before ITLOS.

## II. The Parties' Efforts To Negotiate a Comprehensive Maritime Boundary Agreement

### A. The Parties' Agreement on a Boundary in the Territorial Sea

3.21 In 1966, Pakistan (of which Bangladesh was then a part) and Myanmar agreed that their land boundary terminus would be the point, labelled Point 1, where the centre of the main navigation channel of the Naaf River – which divides the two countries – meets the river's mouth.<sup>74</sup> At the time, the location of Point 1 was identified by reference to landmarks on the banks of the river.<sup>75</sup> Fourteen years later, in a December 1980 Supplementary Protocol, following a joint survey conducted by the Bangladesh-Burma Hydrographic Survey Team, the two States agreed to the precise coordinates of Point 1.<sup>76</sup> In World Geodetic System 1984 ("WGS 84") Datum, they are: 20° 42' 15.8" N - 92° 22' 07.2" E.<sup>77</sup>

<sup>72</sup> J. Ashley Roach & Robert W. Smith, *United States Responses to Excessive Maritime Claims* (2d ed. 1996), at p. 124. MB, Vol. III, Annex 33.

<sup>73</sup> *Ibid.* at p.124, n. 107.

<sup>74</sup> Governments of Pakistan and Myanmar, *Agreement between Pakistan and Burma on the Demarcation of a Fixed Boundary between the Two Countries in the Naaf River* (28 April 1966) (hereinafter "*Pakistan-Burma Agreement on the Demarcation of a Fixed in the Naaf River* (28 April 1966)"), at Art. 2. MB, Vol. III, Annex 1; Governments of Pakistan and Myanmar, *Protocol to Agreement between Pakistan and Burma on the Demarcation of a Fixed Boundary between the Two Countries in the Naaf River* (28 April 1966) (hereinafter "*Protocol to Pakistan-Burma Agreement on the Demarcation of a Fixed in the Naaf River* (28 April 1966)"), at Art. III. MB, Vol. III, Annex 2.

<sup>75</sup> *Protocol to Pakistan-Burma Agreement on the Demarcation of a Fixed in the Naaf River* (28 April 1966), at Art. III. MB, Vol. III, Annex 2.

<sup>76</sup> Governments of Bangladesh and Myanmar, *Supplementary Protocol to the 1966 Agreement between Pakistan and Burma on the Demarcation of a Fixed Boundary between the Two Countries in the Naaf River* (1980), at Art. IV (hereinafter "*Bangladesh-Myanmar Supplementary Protocol to the 1966 Pakistan-Burma Agreement on the Demarcation of a Fixed Boundary in the Naaf River* (1980)"). MB, Vol. III, Annex 6.

<sup>77</sup> In the 1980 Supplementary Protocol, the coordinates were identified as 20° 42' 12.3" N - 92° 22' 18.0" E referred to Indian Datum based on the Everest Spheroid. When converted to WGS-84, these coordinates are as stated in text.

3.22 In 1974, using Point 1 as a starting point, Bangladesh and Myanmar reached agreement on the delimitation of the maritime boundary separating their respective territorial seas to a distance of 12 M from their coastlines. The agreement was reflected in the Agreed Minutes from their meeting on 23 November 1974, signed by the heads of both delegations: Ambassador K.M. Kaiser of Bangladesh and Vice Chief of Naval Staff Commodore Chit Hlaing of Myanmar.<sup>78</sup> The agreed line was illustrated on Special Chart No. 114, which was also signed at the same time by Ambassador Kaiser and Commodore Hlaing.

3.23 The territorial sea boundary agreed to by Bangladesh and Myanmar begins from Point 1 at the mouth of the Naaf River and follows what is essentially an equidistance line drawn between points along Myanmar's mainland coast south of the Naaf River and Bangladesh's St. Martin's Island.<sup>79</sup> The line consists of seven points. The last, Point 7, is located where the 12 M arc drawn from the southern tip of St. Martin's Island intersects the 12 M arc drawn from the nearest point on Myanmar's mainland coast.<sup>80</sup> **Figure 3.2** (in Volume II only) shows the finalized, signed version of Special Chart No. 114 on which the Parties drew the agreed line.

3.24 As part of, and in consideration for, their November 1974 agreement, Bangladesh also agreed to accord Myanmar's vessels the right of free and unimpeded navigation through Bangladesh's waters around St. Martin's Island to and from the Naaf River.<sup>81</sup> As recorded in the Agreed Minutes,

the Burmese delegation in the course of the discussions in Dacca stated that their Government's agreement to delimit the territorial waters boundary in the manner set forth in para. 2 [of the Agreed Minutes] is subject to a guarantee that Burmese ships would have the right of free and unimpeded navigation through Bangladesh waters around St. Martin's Island to and from the Burmese sector of the Naaf River.<sup>82</sup>

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<sup>78</sup> Governments of Bangladesh and Myanmar, *Agreed Minutes of the Meeting Between the Bangladesh Delegation and the Burmese Delegation Regarding the Delimitation of the Maritime Boundary* (23 November 1974) (hereinafter "1974 Agreement"), at para. 2. MB, Vol. III, Annex 4.

<sup>79</sup> *Ibid.*

<sup>80</sup> *Ibid.*

<sup>81</sup> *Ibid.* at paras. 3-4.

<sup>82</sup> *Ibid.* at para. 3. See also Government of Bangladesh, *Brief Report on Bangladesh-Burma Negotiations on Maritime Boundary* (19-25 November 1974) (hereinafter "*Brief Report on Bangladesh-Burma Negotiations on Maritime Boundary* (19-25 November 1974)"), at para. 4. MB, Vol. III, Annex 14.

3.25 Bangladesh prepared and presented Myanmar with a draft treaty reflecting the agreed boundary line.<sup>83</sup> But Myanmar demurred. While it stood by the line, Myanmar indicated that it preferred to formalize the agreement relating to the territorial sea within the context of a comprehensive maritime delimitation settlement, rather than a stand-alone territorial sea treaty.<sup>84</sup> According to the contemporaneous Bangladesh account, Myanmar was “not inclined to conclude a separate treaty/agreement on the delimitation of territorial waters; they would like to conclude a single comprehensive treaty where the boundaries of territorial waters and continental shelf were incorporated”.<sup>85</sup>

3.26 As more fully described below, since 1974 Bangladesh and Myanmar have been unable to conclude an agreement on delimitation of the boundary in the exclusive economic zone and the continental shelf. Thus, the agreement concerning the territorial sea has not been incorporated into a formal, comprehensive treaty. Even so, both States consistently honoured it for over three decades. At a meeting of the two States’ delegations in February 1975, the Parties reiterated that three months earlier they had, in fact, “settled the boundary line on territorial waters and an agreed minute accompanying a map indicating the general alignment of the boundary line was signed by the Leaders of the respective delegations”.<sup>86</sup> At no point between then and 2008 did either Bangladesh or Myanmar reopen the question of the boundary in the territorial sea. Both Parties consistently based their practise on the 1974 agreement. Neither State raised any concerns or made any claims inconsistent with that agreement. Instead, having resolved their territorial sea boundary, the Parties moved on and

<sup>83</sup> The agreed coordinates are listed in the draft treaty, located at MB, Vol. III, Annex 3, as follows:

No.	Latitude	Longitude
1.	20° 42' 12" N	92° 22' 17" E
2.	20° 39' 57" N	92° 21' 16" E
3.	20° 38' 50" N	92° 22' 50" E
4.	20° 37' 20" N	92° 24' 08" E
5.	20° 35' 55" N	92° 25' 15" E
6.	20° 33' 37" N	92° 26' 00" E
7.	20° 22' 53" N	92° 24' 35" E

<sup>84</sup> *Brief Report on Bangladesh-Burma Negotiations on Maritime Boundary* (19-25 November 1974), at para. 7. MB, Vol. III, Annex 14.

<sup>85</sup> *Ibid.*

<sup>86</sup> Government of Bangladesh, *Brief Report on Bangladesh-Burma Maritime Boundary Talks* (14-19 February 1975), at para. 3. MB, Vol. III, Annex 15.

focused their negotiations on the areas beyond the territorial sea in the EEZ and the continental shelf.

3.27 These negotiations ended in 1986 and were not resumed until April 2008. In the meantime, both Parties consistently respected the agreed territorial sea boundary in their practices. Upon the resumption of the negotiations following a 22-year hiatus, Bangladesh and Myanmar again underscored their abiding commitment to the 1974 agreement. Their first action at the renewed talks in April 2008 was to jointly confirm that “the terms of the agreed minutes of [ ] 1974 will remain the same”, subject to two updates.<sup>87</sup> These updates were: *First*, according to the Agreed Minutes, the two delegations “plot[ted] the [ ] coordinates as agreed in 1974 of the ad-hoc understanding on a more recent and internationally recognized chart, namely Admiralty Chart No. 817”.<sup>88</sup> In doing so, they made two slight adjustments: (a) they modified the coordinates of the point of origin, Point 1, to reflect the agreed coordinates recorded in the 1980 Supplementary Protocol;<sup>89</sup> and (b) the location of Point 5 was adjusted five seconds (approximately 0.15 km) south.<sup>90</sup> The Parties made no other changes to the previously agreed points; all other coordinates remained as agreed more than three decades earlier.<sup>91</sup> **Figure 3.3** (following this page), depicts the territorial sea boundary as the two States plotted it on Admiralty Chart 817 in April 2008.

<sup>87</sup> Governments of Bangladesh and Myanmar, *Agreed Minutes of the Meeting Between the Bangladesh Delegation and the Myanmar Delegation Regarding the Delimitation of the Maritime Boundary* (1 April 2008) (hereinafter “*Agreed Minutes of Bangladesh-Myanmar Meeting Regarding Maritime Boundary Delimitation* (1 April 2008)”), at paras. 2-3. MB, Vol. III, Annex 7.

<sup>88</sup> *Ibid.* at para. 3.

<sup>89</sup> As a result, Point 1 was moved 0.3 seconds North and one second East.

<sup>90</sup> From 20° 35' 55'' N to 20° 35' 50'' N.

<sup>91</sup> The coordinates for the territorial sea boundary as reflected in the 2008 Agreed Minutes are referred to the Indian Datum based on the Everest Spheroid and listed in the table on the left below. When converted to WGS 84, they are as listed in the table on the right:

Indian Datum		
No.	Latitude	Longitude
1.	20° 42' 12.3" N	92° 22' 18" E
2.	20° 39' 57" N	92° 21' 16" E
3.	20° 38' 50" N	92° 22' 50" E
4.	20° 37' 20" N	92° 24' 08" E
5.	20° 35' 50" N	92° 25' 15" E
6.	20° 33' 37" N	92° 26' 00" E
7.	20° 22' 53" N	92° 24' 35" E

WGS 84		
No.	Latitude	Longitude
1.	20° 42' 15.8" N	92° 22' 07.2" E
2.	20° 40' 00.5" N	92° 21' 5.2" E
3.	20° 38' 53.5" N	92° 22' 39.2" E
4.	20° 37' 23.5" N	92° 23' 57.2" E
5.	20° 35' 53.5" N	92° 25' 04.2" E
6.	20° 33' 40.5" N	92° 25' 49.2" E
7.	20° 22' 56.6" N	92° 24' 24.2" E

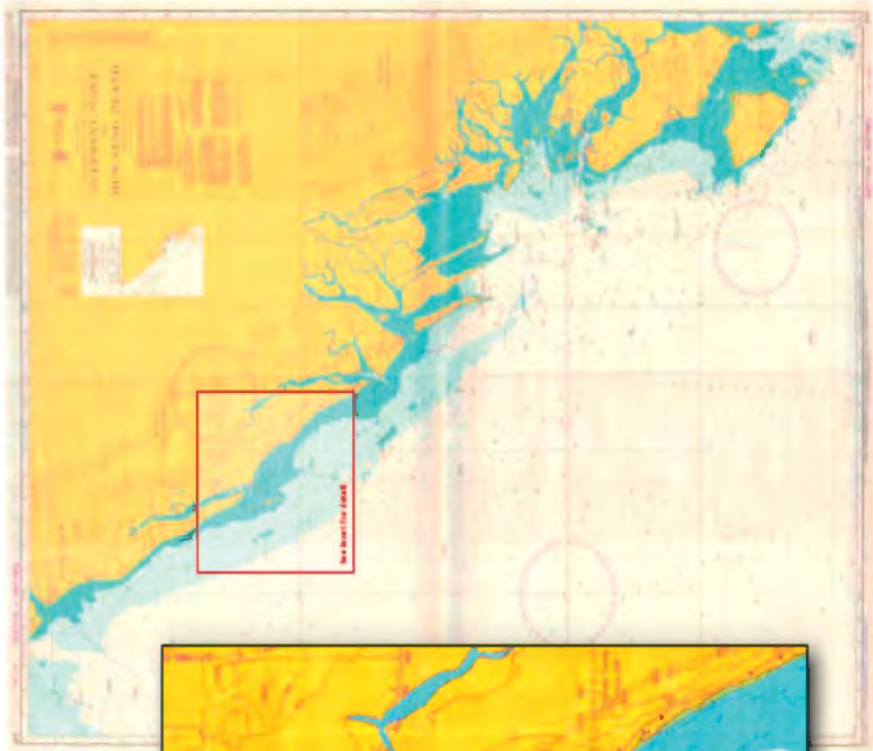
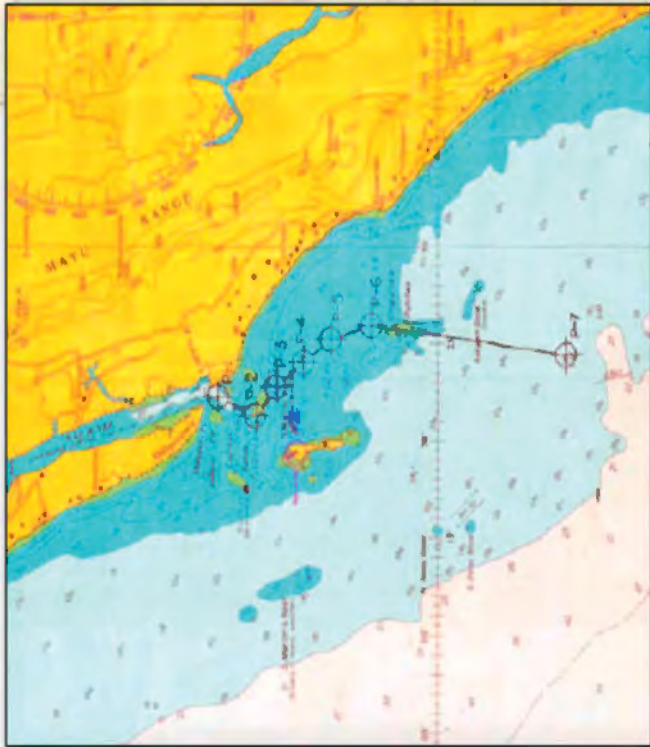


Figure 3.2

**THE 1974 AGREED BOUNDARY LINE  
AS REPLOTTED IN 2008**





3.28 The *second* update, also reflected in the Agreed Minutes, was that the term “unimpeded access” used in the 1974 Agreed Minutes to describe the right that Bangladesh granted to Myanmar’s vessels was replaced, in light of the subsequent adoption of UNCLOS and its ratification by Myanmar and Bangladesh, with the statement: “Innocent passage through the territorial sea shall take place in conformity with the UNCLOS 1982 and shall be based on reciprocity in each others’ waters”.<sup>92</sup> All other terms of the 1974 Agreed Minutes remained the same.

3.29 Nevertheless, at a meeting of the Parties five months later, in September 2008, Myanmar unexpectedly stated that it no longer considered the 1974 territorial sea agreement acceptable.<sup>93</sup> Myanmar took the position then, for the first time, that it did not agree to the line’s end point, Point 7, and that the agreement should be “annulled” because it had been signed before the adoption of UNCLOS.<sup>94</sup> Bangladesh reminded Myanmar that, in fact, all *seven* points had twice been agreed, first in the Agreed Minutes of November 1974 and then again in the Agreed Minutes of April 2008.<sup>95</sup> On both occasions, representatives of the two States confirmed their agreement by plotting their territorial sea boundary on nautical charts – Special Chart No. 114 in 1974 and Admiralty Chart 817 in 2008.<sup>96</sup>

3.30 By the next meeting of the Parties, two months later, Myanmar had evidently realized its position on annulment of the agreement was unsustainable. Instead, it began the territorial sea discussion by acknowledging that “in previous talks it was concluded between the two states that points 1-6 form the international boundary between the two states...”, but argued that Myanmar had “left point-7 open”.<sup>97</sup> Even on that point, it soon recognized “that in the second round of technical level talks in Dhaka in November 1974, in accordance with the

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<sup>92</sup> *Agreed Minutes of Bangladesh-Myanmar Meeting Regarding Maritime Boundary Delimitation* (1 April 2008), at p. 1. MB, Vol. III, Annex 7.

<sup>93</sup> Government of Bangladesh, *Report of the Visit by the Bangladesh Delegation to Myanmar Regarding the Delimitation of Maritime Boundary* (4-5 September 2008) (hereinafter “*Report of the Visit by the Bangladesh Delegation to Myanmar Regarding the Delimitation of Maritime Boundary* (4-5 September 2008)”), at para. 5. MB, Vol. III, Annex 18.

<sup>94</sup> *Ibid.*

<sup>95</sup> *Ibid* at para. 6.

<sup>96</sup> *Ibid.*

<sup>97</sup> Government of Bangladesh, *Report on Bangladesh-Myanmar Maritime Delimitation Technical Level Talks* (16-17 November 2008), at para. 13. MB, Vol. III, Annex 19.

decision of its Cabinet, Myanmar accepted median line from the mouth of Naaf River up to point number 7 subject to the completion of a treaty on delimiting EEZ/Continental Shelf”.<sup>98</sup>

3.31 For these reasons, Bangladesh considers that the location of the boundary between it and Myanmar in the territorial sea has been agreed, as reflected in the 1974 and 2008 agreements.

B. Efforts to Settle the Maritime Boundary in the Continental Shelf and Exclusive Economic Zone

3.32 Since negotiations first began nearly 36 years ago, Bangladesh and Myanmar have made repeated, but ultimately unsuccessful, attempts to agree on the delimitation of their maritime boundary beyond the territorial sea. The Parties met five times between 1974 and 1979; three times in 1986; and then six times between 2008 and March 2010. They have been unable to reach agreement on what constitutes an equitable solution.

3.33 The most productive period of talks was during the 1970s. During their five rounds of negotiations in that decade, Bangladesh and Myanmar made measurable headway and agreed on several key principles on which future negotiations would be based. Most importantly, Myanmar agreed with Bangladesh’s core contention; that is, that simply applying the equidistance principle would not yield an equitable result. According to the Bangladesh delegation’s minutes from the 1979 meeting, for instance, Myanmar expressly “agreed with the view that Bangladesh is geographically disadvantaged and a median line would be very unfair to her”.<sup>99</sup> The “common points of agreement” that emerged from the 1979 talks included the following:

- “the geographical and geomorphological peculiarities of the Bangladesh coast are to be recognised”;
- “rigid application of equidistance principle is not possible”; and

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<sup>98</sup> *Ibid.* at para. 17.

<sup>99</sup> Government of Bangladesh, *Minutes of the Meeting on the Delimitation of the Bangladesh-Burma Maritime Boundary* (8-9 June 1979) (hereinafter “*Minutes of the Bangladesh-Burma Meeting on Maritime Boundary Delimitation* (8-9 June 1979)”), at para. 4. MB, Vol. III, Annex 16.

- “the coastal frontage is allowed to Bangladesh by Burma. Burma will allow the opening at the end of 200 miles economic zone limit”.<sup>100</sup>

3.34 The Parties were, however, unable to take advantage of these common points to reach an agreement on an equitable delimitation. Notwithstanding its recognition that “a median line would be very unfair” to Bangladesh, Myanmar subsequently insisted that the maritime boundary in the exclusive economic zone and continental shelf should be delimited on the basis of equidistance.<sup>101</sup> There being no progress, further talks were suspended for seven years.

3.35 When the two States returned to the negotiating table in 1986, the results were much the same. According to the Bangladesh delegation’s contemporaneous report on the July 1986 meeting: “It appears that in the maritime negotiations we have reached a stalemate at the technical level and there can not be any movement forward unless the Burmese side agrees to dismount from the ‘equidistance high-horse’”.<sup>102</sup> As Bangladesh then explained: “The use of [the] equidistance method is generally not equitable between adjacent states where the coast line is concave. Such a method is particularly inequitable between Bangladesh and Burma and would have both [an] ‘amputation’ and [an] ‘enclavement’ effect for Bangladesh. Its use would negate any purported recognition of Bangladesh’s disadvantaged geographical positions”.<sup>103</sup>

3.36 Twenty-two years then passed before talks were resumed in 2008. These continued until March 2010. Unfortunately, they went around the same circle. Even as Myanmar continued to acknowledge that it should not “insist on a strict equidistance or median line”,<sup>104</sup> its formal delimitation proposals diverged only marginally from an equidistance line. Its last proposal was a line tracking the equidistance line for 122 M, before deflecting slightly to the south to open a sliver of additional maritime space for Bangladesh.<sup>105</sup> For its part, Bangladesh

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<sup>100</sup> *Ibid* at para. 5.

<sup>101</sup> *Ibid* at para. 4.

<sup>102</sup> Letter from Mustafizur Rahman, Ambassador of Bangladesh to Burma, to Mr. Fakhruddin Ahmed, Foreign Secretary of Bangladesh (31 July 1986), at p. 4. MB, Vol. III, Annex 17.

<sup>103</sup> *Ibid* at p. 2.

<sup>104</sup> Government of Bangladesh, *Report on Bangladesh-Myanmar Maritime Delimitation Technical Level Talks* (16-17 November 2008), at para. 6. MB, Vol. III, Annex 19

<sup>105</sup> *Ibid* at para. 42.

continued to point out that equidistance, in the context of a concave coastline, would be inequitable. In the talks, it was the view of the Bangladesh delegation that “it is the equitable principle which should dictate [the] delimitation. Due to the geographical factors, application of equidistance gives an inequitable result to Bangladesh which frustrates the very purpose of maritime delimitation, that is, [an] equitable result”.<sup>106</sup> Bangladesh advised that “if Myanmar sticks to a strict equidistance line as they have proposed in this meeting, there might be negotiations for years without any tangible result”.<sup>107</sup>

3.37 Following the meetings of the Parties in September and November 2008, and Myanmar’s continued insistence on equidistance as the basis for delimitation of the maritime boundary, it was clear that negotiations had reached an impasse. After 34 years, the Parties were no closer to a comprehensive maritime boundary agreement than when they started. Although talks continued, Bangladesh concluded that the only practical way forward to a resolution of the Parties’ long-standing dispute was by third-party adjudication. These proceedings then followed, initiated by Bangladesh’s Statement of Claim of 8 October 2009, which, together with a Notice of Arbitration under Annex VII of UNCLOS, was delivered to Myanmar on that date. By subsequent exchange of diplomatic notes, the Parties agreed to submit the dispute to ITLOS and it was entered in the list of cases on 14 December 2009 as case No. 16.

### III. The Parties’ Claims in the Outer Continental Shelf

3.38 Both Bangladesh and Myanmar assert claims to an outer continental shelf beyond 200 M. Myanmar first made its claims on 16 December 2008 in its submission to the CLCS. In that submission, an executive summary of which was obtained by Bangladesh from the CLCS website, Myanmar claims entitlement to an outer continental shelf extending 350 M towards the centre of the Bay of Bengal from its coast and the Preparis and Coco Islands. Its claims are depicted in **Figure 3.4** (in Volume II only). Myanmar’s submission claims the Bengal Fan as the natural prolongation of its western, or Rakhine, coast based on the existence of an accretionary prism that, as noted above in paragraphs 2.22 and 2.41, extends no more than 50 M from the shore.

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<sup>106</sup> *Ibid.* at para. 8.

<sup>107</sup> *Ibid.* at para. 32.

3.39 Bangladesh has not yet made a submission to the CLCS. Under Article 4 of Annex II of the 1982 Convention, it has until 27 July 2011 to do so. It has, however, submitted to the CLCS an objection to Myanmar's claim, including a statement that, as the maritime boundary between the two States – including the boundary in the outer continental shelf – is disputed, the CLCS may not consider Myanmar's claim until the dispute is resolved or Bangladesh gives its consent.<sup>108</sup> On 24 August 2009, the CLCS decided to defer further consideration of Myanmar's submission.<sup>109</sup>

3.40 Bangladesh set out its entitlement to the outer continental shelf in the Bay of Bengal in its Statement of Claim of 8 October 2009. The extent of its claim is set forth in Chapter 7 and illustrated in **Figure 3.5** (in Volume II only). To summarize, Bangladesh claims that the Bengal Fan represents the natural prolongation of its landmass such that, under Article 76 of UNCLOS, it is entitled to a continental shelf in the Bay of Bengal extending beyond 200 M, to a limit that is – pursuant to Article 76(4) and (5) of the 1982 Convention – 100 M beyond the 2,500 metre isobath. Part of the outer continental shelf claimed by Bangladesh is also claimed by Myanmar. Another part of Bangladesh's claim is claimed by both Myanmar and India. The outer continental shelf claims of the Parties are depicted in Chapter 7, at **Figure 7.1**.

### Conclusions

3.41 The history of the Parties' negotiations, claims, and practices indicates the following conclusions:

- (i) since 1974, they have agreed upon the maritime boundary in the territorial sea;
- (ii) despite extensive negotiations extending over three decades, the Parties have been unable to reach agreement on a boundary with respect to their exclusive economic zones or continental shelves; and
- (iii) they have conflicting and overlapping claims to the outer continental shelf beyond 200 M, with each Party claiming that the outer shelf is the natural prolongation of its own landmass.

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<sup>108</sup> *Note Verbale* from the Permanent Mission of Bangladesh to the United Nations to the Secretary-General of the United Nations, No. PMBNY-UNCLOS/2009 (23 July 2009). MB, Vol. III, Annex 21.

<sup>109</sup> Commission on the Limits of the Continental Shelf, Twenty-fourth session, *Statement by the Chairman of the Commission on the Limits of the Continental Shelf on the Progress of Work in the Commission*, U.N. Doc. CLCS/64 (1 October 2009), at para. 40. MB, Vol. III, Annex 29.

**CHAPTER 4****THE JURISDICTION OF ITLOS TO DELIMIT THE MARITIME BOUNDARY BETWEEN BANGLADESH AND MYANMAR**

4.1 This Chapter establishes that the present dispute falls squarely within the jurisdiction of ITLOS for two reasons. *First*, the Parties have expressly recognized the jurisdiction of ITLOS over the dispute by Special Agreement. *Second*, the subject-matter of the dispute is exclusively concerned with the provisions of UNCLOS and thus falls entirely within ITLOS jurisdiction as agreed by the parties. In regard to the second point, the jurisdiction of ITLOS to delimit the maritime boundary between Bangladesh and Myanmar in all the areas of dispute – including the continental shelf beyond 200 M – is recognized under UNCLOS.

4.2 This Chapter also establishes that the claim by a non-party (India) to a portion of the outer continental shelf that is the subject matter of this dispute does not constitute a bar to ITLOS jurisdiction, or a reason to decline to exercise it, because any judgment that ITLOS would render in this case would be *res inter alios acta* and thus not binding in regard to India or any other third State. Indeed, it is not uncommon for international courts and arbitral tribunals to exercise jurisdiction in cases where non-parties have actual or potential claims to all or part of the area to be delimited, based on this principle: the delimitation is strictly without prejudice to the rights or claims of third States. This rule is reflected in Article 33(2) of the ITLOS Statute: “The decision shall have no binding force except between the parties in respect of that particular dispute”.

**I. The Parties Have Accepted ITLOS Jurisdiction by Special Agreement**

4.3 Article 21 of the ITLOS Statute provides that:

The jurisdiction of the Tribunal comprises all disputes and all applications submitted to it in accordance with this Convention and all matters specifically provided for in any other agreement which confers jurisdiction on the Tribunal.

4.4 In the present case, the Parties have specifically conferred jurisdiction on ITLOS by notification of a Special Agreement under Article 55 of the Rules of the Tribunal. Although Bangladesh initiated proceedings under Part XV of the Convention, the Special Agreement supplants the Part XV procedures, which commenced on 8 October 2009, when Bangladesh

formally served Myanmar with its Statement of Claim. Since there were no Article 287 declarations in force at the time, the Parties were “deemed to have accepted arbitration in accordance with Annex VII”, pursuant to Article 287(3). Accordingly, the Statement of Claim called for the establishment of an Annex VII Arbitral Tribunal.

4.5 As part of its 4 November 2009 response to the Statement of Claim, however, Myanmar issued a declaration whereby it:

accepts the jurisdiction of the International Tribunal for the Law of the Sea for the settlement of dispute between the Union of Myanmar and the People’s Republic of Bangladesh relating to the delimitation of maritime boundary between the two countries in the Bay of Bengal.<sup>110</sup>

4.6 On 12 December 2009, Bangladesh made a reciprocal declaration whereby it:

accepts the jurisdiction of the International Tribunal for the Law of the Sea for the settlement of the dispute between the People’s Republic of Bangladesh and the Union of Myanmar relating to the delimitation of their maritime boundary in the Bay of Bengal.<sup>111</sup>

4.7 On 13 December 2009, Bangladesh submitted the Parties’ respective declarations to ITLOS, stating in an accompanying letter that:

Given Bangladesh’s and Myanmar’s mutual consent to the jurisdiction of ITLOS, and in accordance with the provisions of UNCLOS Article 287(4), Bangladesh considers that your distinguished Tribunal is now the only forum for the resolution of the parties’ dispute. In light of these developments, Bangladesh respectfully invites ITLOS to exercise jurisdiction over the maritime boundary dispute between Bangladesh and Myanmar, which is the subject of Bangladesh’s 08 October 2009 statement of claim.<sup>112</sup>

4.8 On 14 December 2009, the ITLOS Registry determined, on the basis of the Parties’ reciprocal declarations and Bangladesh’s letter of 13 December, that a Special Agreement had been reached conferring jurisdiction on ITLOS pursuant to Article 55 of the Rules:

In light of the agreement of the parties, as expressed through their respective declarations, to submit to the International Tribunal for the Law of the Sea

<sup>110</sup> Government of Myanmar, *Declaration under Article 287 of the UNCLOS Accepting the Jurisdiction of the International Tribunal for the Law of the Sea* (4 November 2009). MB, Vol. III, Annex 22.

<sup>111</sup> Government of Bangladesh, *Declaration under Article 287(1) of the UNCLOS Accepting the Jurisdiction of the International Tribunal for the Law of the Sea* (12 December 2009). MB, Vol. III, Annex 23.

<sup>112</sup> Letter from Dr. Dipu Moni, MP, Bangladesh Minister for Foreign Affairs, to Judge José Luis Jesus, President of the International Tribunal for the Law of the Sea (13 December 2009). MB, Vol. III, Annex 24.

their dispute relating to the delimitation of their maritime boundary in the Bay of Bengal, and taking into account the invitation addressed to the Tribunal by Bangladesh "to exercise jurisdiction" over said dispute...<sup>113</sup>

4.9 The Special Agreement constitutes an *ad hoc* bilateral agreement under Article 281 of UNCLOS, which provides:

1. If the States Parties which are parties to a dispute concerning the interpretation or application of this Convention have agreed to seek settlement of the dispute by a peaceful means of their own choice, the procedures provided for in this Part apply only where no settlement has been reached by recourse to such means and the agreement between the parties does not exclude any further procedure.

4.10 As explained by the arbitral tribunal in *Barbados/Trinidad and Tobago*: "Article 281 is intended primarily to cover the situation where the Parties have come to an *ad hoc* agreement as to the means to be adopted to settle the particular dispute which has arisen".<sup>114</sup> In such circumstances, Article 281 renders inapplicable "the procedures provided for in this Part [which] apply only where no settlement has been reached by recourse to such means...". Thus, the Special Agreement of the Parties supplants any obligations that might otherwise apply under Part XV, including the requirement in Article 283(1) that "the parties to the dispute shall proceed expeditiously to an exchange of views regarding its settlement by negotiation or other peaceful means". In any event, this is a requirement that the Parties to the present dispute have already satisfied, as described in Chapter 3, paragraphs 3.22 to 3.38, which describe the extensive but unsuccessful efforts by the Parties to negotiate a settlement over more than three decades.

4.11 Accordingly, on 14 December 2009, the ITLOS Registry entered the case in the list of cases of ITLOS as Case No. 16. It also informed the Parties of the intention of the President of ITLOS to hold consultations in Hamburg to seek their views pertaining to the conduct of the proceedings in the case.

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<sup>113</sup> Press Release of the International Tribunal for the Law of the Sea, *Proceedings Instituted in the Dispute Concerning the Maritime Boundary Between Bangladesh and Myanmar in the Bay of Bengal* (16 December 2009). MB, Vol. III, Annex 25.

<sup>114</sup> *Delimitation of Maritime Boundary between Barbados and Trinidad and Tobago*, Award, 11 April 2006, reprinted in 27 RIAA 147 at para. 200. Reproduced in MB, Vol. V.



4.12 On 14 January 2010, Myanmar addressed a letter to Bangladesh expressing its intention “to withdraw its previous declaration accepting the jurisdiction of ITLOS made on 4<sup>th</sup> November 2009 by the Minister of Foreign Affairs of Myanmar”. In a letter dated 18 January 2010, Bangladesh responded as follows:

Myanmar’s subsequent withdrawal of its declaration of 4 November 2009, which Myanmar claims to have been transmitted to the Secretary General of the United Nations on 14 January 2010, falls under Article 287 paragraphs 6 and 7 of the 1982 Convention, which provide: (paragraph 6) ‘A declaration made under paragraph 1 shall remain in force until three months after notice of revocation has been deposited with the Secretary General of the United Nations’; (paragraph 7) ‘A new declaration, a notice of revocation or the expiry of a declaration does not in any way affect proceedings pending before a court or tribunal having jurisdiction under this article, unless the parties otherwise agree’.<sup>115</sup>

4.13 This matter was resolved during the consultation of the Parties with the President of ITLOS in Hamburg on 26 January 2010. At that meeting, Myanmar’s attempted “withdrawal” of its Declaration of 4 November 2009 was itself withdrawn, and the President and the Parties adopted the “Minutes of the President’s consultations with the representatives of the parties”, paragraph 4 of which provides:

It was noted that, in light of the agreement of the parties as reflected in their declarations dated 4 November 2009 and 12 December 2009, respectively, to submit to the International Tribunal for the Law of the Sea for adjudication their dispute relating to the delimitation of their maritime boundary in the Bay of Bengal, and taking into account the notification submitted to the Tribunal by Bangladesh dated 13 December 2009, the case had been entered in the List of cases of the International Tribunal for the Law of the Sea as Case No. 16. Accordingly, the parties concur that 14 December 2009 is to be considered the date of the institution of proceedings before the Tribunal.

4.14 For these reasons, the jurisdiction of ITLOS in regard to the present dispute is plainly established by the Special Agreement of the Parties, pursuant to Article 55 of the Rules of Procedure.<sup>116</sup>

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<sup>115</sup> Letter from Rear Admiral (Retd.) Md. Khurshed Alam, Deputy Agent of Bangladesh, to Mr. Philippe Gautier, Registrar of the International Tribunal for the Law of the Sea (18 January 2010). MB, Vol. III, Annex 26.

<sup>116</sup> See also *The M/V “Saiga” (No. 2) Case* (St. Vincent and the Grenadines v. Guinea), ITLOS Judgment of 1 July 1999, at paras. 40-45.

## II. The Subject Matter of the Dispute Falls Under the 1982 Convention and the Jurisdiction of ITLOS

4.15 The subject matter of this dispute concerns the interpretation and application of UNCLOS. It thus falls squarely within the jurisdiction of ITLOS. Bangladesh and Myanmar are both parties to UNCLOS. Bangladesh ratified the 1982 Convention on 27 July 2001 and Myanmar ratified on 21 May 1996.<sup>117</sup> The substantive provisions of the 1982 Convention, therefore, are binding on the Parties.

4.16 As indicated in its Statement of Claim: “Bangladesh’s claim is based on the provisions of UNCLOS as applied to the relevant facts, including but not limited to UNCLOS Articles 15, 74, 76 and 83”.<sup>118</sup> These provisions relate to the delimitation of the territorial sea, exclusive economic zone and continental shelf, including the outer continental shelf beyond 200 M.

4.17 In regard to the territorial sea, the Statement of Claim: “requests the Tribunal to confirm that the maritime boundary between Bangladesh and Myanmar is delimited by the 1974 *Agreed Minutes Between the Bangladesh Delegation and the Burmese Delegation Regarding the Delimitation of Maritime Boundary Between the Two Countries*”.<sup>119</sup> The provisions of the 1974 *Agreed Minutes* are addressed in Chapter 3, at paragraphs 3.23 to 3.26. Bangladesh’s claim in regard to the territorial sea is elaborated in Chapter 5.

4.18 As to the exclusive economic zone and the continental shelf, including “the portion of the continental shelf pertaining to Bangladesh that lies more than 200 nautical miles from the baselines from which its territorial sea is measured”, the Statement of Claim “requests the Tribunal to delimit, in accordance with the principles and rules set forth in UNCLOS, the maritime boundary between Bangladesh and Myanmar in the Bay of Bengal...”<sup>120</sup>

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<sup>117</sup> See Multilateral treaties deposited with the Secretary-General, UN Convention on the Law of the Sea, available at <http://untreaty.un.org/ENGLISH/bible/englishinternetbible/partI/chapterXXI/treaty6.asp>.

<sup>118</sup> Government of Bangladesh, Statement of Claim and Notification under UNCLOS Article 287 and Annex VII, Article 1 (8 October 2009), at para. 21.

<sup>119</sup> *Ibid.* at para. 25.

<sup>120</sup> *Ibid.* at para. 24.

4.19 The Statement of Claim, in paragraph 26, further “requests the Tribunal to declare that by authorizing its licensees to engage in drilling and other exploratory activities in maritime areas claimed by Bangladesh without prior notice and consent, Myanmar has violated its obligations to make every effort to reach a provisional arrangement pending delimitation of the maritime boundary as required by UNCLOS Articles 74(3) and 83(3), and further requests the Tribunal to order Myanmar to pay compensation to Bangladesh as appropriate”. In the interest of good neighbourliness, and in the spirit of cooperation that has characterized these proceedings thus far, Bangladesh hereby withdraws the claims put forward in paragraph 26 of its Statement of Claim. At the same time, Bangladesh reserves its rights to modify or amend its claims in the unlikely event that Myanmar engages in new activities in breach of its obligations under Articles 74(3) and 83(3).

4.20 Since the dispute is exclusively concerned with delimitation of the boundary between the two States in the territorial sea, exclusive economic zone and continental shelf, it falls squarely within the Articles 15, 74, 76 and 83 of the 1982 Convention and the jurisdiction of ITLOS. As stated in Article 21 of the ITLOS Statute: “The jurisdiction of the Tribunal comprises all disputes and all applications submitted to it in accordance with [the 1982] Convention and all matters specifically provided for in any other agreement which confers jurisdiction on the Tribunal”.

4.21 The remainder of this Chapter addresses the jurisdiction of ITLOS in regard to two aspects of the dispute between the Parties: the delimitation of the boundary in the continental shelf beyond 200 M; and the fact that a portion of the area beyond 200 M claimed by both Parties is also claimed by India.

#### A. Delimitation of the Outer Continental Shelf

4.22 The present dispute includes Bangladesh’s claim to a continental shelf, including the portion of it lying beyond 200 M from Bangladesh’s coastline. As set forth in its Statement of Claim:

Bangladesh requests the Tribunal to delimit, in accordance with the principles and rules set forth in UNCLOS, the maritime boundary between Bangladesh and Myanmar in the Bay of Bengal, in the territorial sea, the EEZ, and the continental shelf, *including the portion of the continental shelf pertaining to*

*Bangladesh that lies more than 200 nautical miles from the baselines from which its territorial sea is measured.*<sup>121</sup>

4.23 ITLOS is expressly empowered by UNCLOS to adjudicate disputes between States arising under Articles 76 and 83, in regard to delimitation of the continental shelf.<sup>122</sup> The 1982 Convention draws no distinction in this regard between jurisdiction over the inner portion of the continental shelf, within 200M and the outer portion of the continental shelf beyond that distance. Delimitation of the entire continental shelf is covered by Article 83, and ITLOS plainly has jurisdiction to carry out a delimitation beyond 200M.

4.24 In the *Barbados/Trinidad and Tobago Maritime Boundary Arbitration Award* of 11 April 2006, an UNCLOS Annex VII arbitral tribunal held that delimitation of the outer shelf formed part of the claim and that it had jurisdiction to delimit the maritime boundary extending beyond 200 M.<sup>123</sup> In that regard, the arbitral tribunal explained that “there is in law only a single ‘continental shelf’ rather than an inner continental shelf and a separate extended or outer continental shelf”,<sup>124</sup> such that its jurisdiction under UNCLOS to effect a delimitation in the continental shelf necessarily covers delimitation of the shelf beyond 200 M.

4.25 The authority of ITLOS to delimit the entire continental shelf, including the area beyond 200 M, does not conflict with, and is not diminished by, the role of the Commission on the Limits of the Continental Shelf as provided in Article 76(8) of the 1982 Convention. First, the CLCS has no authority to effect a *delimitation* of the outer continental shelf, as requested by Bangladesh in the present case. Its role is limited to making *recommendations* regarding the *delineation of the outer limits* of the continental shelf. Article 76(8) of the 1982 Convention, which sets forth the mandate of the CLCS, provides that: “The Commission shall make *recommendations* to coastal States on matters related to the establishment of the *outer limits* of their continental shelf. The *limits of the shelf* established by a coastal State on

<sup>121</sup> *Ibid.* at para. 24 (emphasis added).

<sup>122</sup> Article 83 of the 1982 Convention confirms that “[i]f no agreement can be reached [on the delimitation of the continental shelf] within a reasonable period of time, the States concerned shall resort to the procedures provided for in Part XV”. Part XV, Article 287, designates ITLOS as one of the four bodies empowered to settle delimitation disputes, as referenced in Article 83 – the CLCS is, of course, not listed.

<sup>123</sup> *Barbados/Trinidad and Tobago* at paras. 213-217. Reproduced in MB, Vol. V.

<sup>124</sup> *Ibid.* at para. 213.

the basis of these *recommendations* shall be final and binding”.<sup>125</sup> It is evident that the CLCS does not function as a judicial body; it can only issue *recommendations* that shall be “final and binding” *only* if the concerned State consents. Article 8 of UNCLOS Annex II even stipulates that:

*In the case of disagreement* by the coastal State with the recommendations of the Commission, the coastal State shall, within a reasonable time, make a revised or new submission to the Commission.

4.26 The Convention makes a sharp distinction between recommendations regarding the *delineation* of the outer margin of the continental shelf, and *delimitation* of the continental shelf between two contending States. In this regard, Article 76(10) provides that:

The provisions of this article are without prejudice to the question of delimitation of the continental shelf between States with opposite or adjacent coasts.

Similarly, Article 9 of UNCLOS Annex II expressly states that:

The actions of the Commission shall not prejudice matters relating to delimitation of boundaries between States with opposite or adjacent coasts.

4.27 The Commission itself has recognised its lack of competence in regard to delimitation of the outer continental shelf. Its Rules of Procedure expressly prohibit it from even making recommendations with respect to the outer limits of the continental shelf where there is a delimitation dispute, unless the Parties to the dispute agree otherwise. Annex I, paragraph 5(a) of the 2008 CLCS Rules of Procedure provides:

In cases where a land or maritime dispute exists, the Commission shall not examine and qualify a submission made by any of the States concerned in the dispute. However, the Commission may examine one or more submissions in the areas under dispute with prior consent given by all States that are parties to such a dispute.

4.28 *Second*, there is no conflict between the roles of ITLOS and the Commission in regard to the continental shelf. To the contrary, the roles are complementary. ITLOS has jurisdiction to delimit boundaries within the outer continental shelf; the Commission makes recommendations as to the delineation of the shelf’s outer limits with the international seabed, provided there are no disputed claims between adjacent or opposite States. Indeed,

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<sup>125</sup> Emphasis added.

the Commission may not make *any* recommendations on the outer limits until such dispute is resolved (by ITLOS or another judicial or arbitral body, or by agreement between the parties) – unless the parties give their consent that the Commission review their submissions.

4.29 In the present case, the Commission is precluded from acting due to the Parties' disputed claims in the outer continental shelf and the refusal by at least one of them (Bangladesh) to consent to the Commission's actions. As indicated in Chapter 3, paragraph 3.39, the Commission has already decided to postpone action on Myanmar's submission in light of Bangladesh's notification of the existence of a dispute and objection to further proceedings. Thus, the CLCS will not address the outer limits of the continental shelf in the Bay of Bengal unless and until the dispute is resolved by ITLOS.

4.30 For the sake of completeness, it should be noted that in 1992 – fourteen years prior to the Award of the arbitral tribunal in *Barbados/Trinidad and Tobago* asserting jurisdiction under UNCLOS in regard to the outer continental shelf – the Court of Arbitration in the *Saint Pierre et Miquelon* case declined to exercise jurisdiction to delimit the continental shelf between Canada and France beyond 200 M. It explained that:

Any decision by this Court recognizing or rejecting any rights of the Parties over the continental shelf beyond 200 nautical miles, would constitute a pronouncement involving a delimitation, not 'between the Parties' but between each one of them and the international community, represented by organs entrusted with the administration and protection of the international sea-bed Area (the sea-bed beyond national jurisdiction) that has been declared to be the common heritage of mankind...<sup>126</sup>

The Court of Arbitration further explained that:

In this connection the Court notes that in accordance with Article 76, para. 8 and Annex II of the 1982 Convention on the Law of the Sea, a Commission is to be set up, under the title of "Commission on the Limits of the Continental Shelf", to consider the claims and data submitted by coastal States and issue recommendations to them".<sup>127</sup>

4.31 The reasoning of the Court of Arbitration and its Award have been superseded by subsequent developments and have no application or pertinence to the present proceedings.

<sup>126</sup> *Case Concerning Delimitation of Maritime Areas between Canada and France (St. Pierre et Miquelon)*, Decision, 10 June 1992, reprinted in 31 I.L.M. 1149, at para. 78. Reproduced in MB, Vol. V.

<sup>127</sup> *Ibid.* at para. 79.

Taking the point about the CLCS first, it is plain that the Court of Arbitration relied on the erroneous assumption that the functions of the still-to-be-set-up Commission would include “recognizing or rejecting any rights of the Parties over the continental shelf beyond 200 nautical miles”. This fundamental misapprehension as to the role of the CLCS can be attributed, at least in part, to the fact that the Court of Arbitration, which was not constituted under the 1982 Convention but by a *compromis* dated 30 March 1989, delivered its Award two years prior to the entry into force of UNCLOS (on 16 November 1994) and five years before the first CLCS was elected (on 13 March 1997).<sup>128</sup> As described above, it is now well established that the CLCS has no authority to delimit maritime boundaries in the outer continental shelf, and has no competence even to make “recommendations” on the outer limits of the shelf when there are disputed claims to it, as there are between Bangladesh and Myanmar.

4.32 In regard to the reluctance of the Court of Arbitration to delimit a boundary between the parties and the international community, this point, too, has no application to the present proceedings. *First*, the area to be delimited in this case does not extend to the portions of the seabed controlled by the International Seabed Authority (which did not exist at the time the Court of Arbitration issued its Award). In fact, as discussed further below, there are portions of the seabed beyond Bangladesh’s claim line which are claimed by Myanmar and India, and are not in dispute in this case. Thus, there is no need for ITLOS to determine where the International Seabed Authority’s jurisdiction might begin.

4.33 Moreover, even if the outer limit of the area in dispute abutted the international seabed, *quod non*, it is not clear that the Award in the *Saint Pierre et Miquelon* case would have any relevance to proceedings before ITLOS which, because it was constituted under UNCLOS, is fully empowered by the 1982 Convention to effectuate a delimitation in the entire continental shelf, including up to its outer limits. Since ITLOS judgments are binding only on the parties before it, the rights of third States or the international community, whether to the area in dispute or to the international seabed and ocean floor, cannot – by definition – be adversely affected. As the arbitral tribunal in the *Newfoundland-Nova Scotia* case stated:

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<sup>128</sup> See United Nations Convention on the Law of the Sea, Meeting of States Parties, *Report of the Sixth Meeting of States Parties*, U.N. Doc SPLOS/20 (20 March 1997) at paras. 12-21. MB, Vol. III, Annex 28.

there does not seem to be any difference in principle between the non-effect of a bilateral delimitation vis-à-vis a third state ... and its non-effect vis-à-vis the “international community” or third states generally.<sup>129</sup>

#### B. Delimitation of an Area That Is Also Claimed by India

4.34 As depicted in Chapter 7 at **Figure 7.1**, the claims of Bangladesh and Myanmar to the outer continental shelf overlap. Part of this area of overlap is claimed only by Bangladesh and Myanmar. Another part is also claimed by India.<sup>130</sup> This is neither a bar to delimitation of this area by ITLOS nor a reason for ITLOS to decline to exercise jurisdiction in regard to it.

4.35 A potential overlapping claim of a third State cannot deprive ITLOS of jurisdiction to delimit the maritime boundary between two States that are subject to the jurisdiction of ITLOS because third States are not bound by the ITLOS judgment and their rights are unaffected by any such judgment. So far as third States are concerned, a delimitation judgment by ITLOS is merely *res inter alios acta*. The ITLOS Statute provides this assurance in Article 33(2). Thus, the judgment in this case can have no bearing on India’s rights.

4.36 The approach adopted in the *Anglo-French Continental Shelf Case*<sup>131</sup> is instructive. In that case, the Court of Arbitration had to contend with delimitation of the continental shelf between France and the United Kingdom notwithstanding an overlap with the as-yet undefined boundary between the United Kingdom and Ireland. The United Kingdom informed the Court of Arbitration that it had addressed a Note to the Government of the Irish Republic accepting the latter’s proposal to refer the delimitation of the continental shelf as between those two States to a compulsory dispute settlement procedure.<sup>132</sup> In determining that it could exercise jurisdiction to delimit the entirety of the continental shelf boundary between France and the United Kingdom, the Court of Arbitration noted that its award “will be binding only as between the Parties to the present arbitration and will neither be binding

<sup>129</sup> *Limits of the Offshore Areas between Newfoundland and Labrador and Nova Scotia, Award*, Second Phase, 26 March 2002, available at <[http://lawlibrary.unbf.ca/boundaryarbitration/pdfs/Awards & Maps/PhaseII\\_Award\\_English\[1\]\\_opt.pdf](http://lawlibrary.unbf.ca/boundaryarbitration/pdfs/Awards & Maps/PhaseII_Award_English[1]_opt.pdf)>, at para. 2.31, fn. 90. Reproduced in MB, Vol. V.

<sup>130</sup> This map is based on the respective submissions of India and Myanmar to the CLCS, and the claims of Bangladesh in the present case.

<sup>131</sup> *Delimitation of the Continental Shelf between France and the United Kingdom*, Decision, 30 June 1977, reprinted in 18 RIAA 3. Reproduced in MB, Vol. V.

<sup>132</sup> *Ibid.* at para. 26.



upon nor create any rights or obligations for any third State, and in particular for the Republic of Ireland, for which the Decision will be *res inter alios acta*". The Court of Arbitration further observed that:

In so far as there may be a possibility that the two successive delimitations of continental shelf zones in this region, where the three States are neighbours abutting on the same continental shelf, may result in some overlapping of the zones, it is manifestly outside the competence of this Court to decide in advance and hypothetically the legal problem which may then arise. That problem would normally find its appropriate solution by negotiations directly between the three States concerned...<sup>133</sup>

4.37 Thus, the agreement to arbitrate between the United Kingdom and Ireland that covered part of the area also disputed by the UK and France did not deprive the Court of Arbitration of the jurisdiction to delimit the area in question. The fact that there would be two "successive delimitations", even with potentially "overlapping zones", was not a bar to the exercise of jurisdiction. Here, there is also a separate arbitration between one of the Parties to these proceedings and India, a third State. Bangladesh initiated arbitration proceedings against India at the same time it commenced the present proceedings against Myanmar, via a Statement of Claim dated 8 October 2009. Because India rejected Bangladesh's proposal that the case be submitted to ITLOS, the arbitration is proceeding under Annex VII of the 1982 Convention.<sup>134</sup>

4.38 There is even more reason for ITLOS to exercise its jurisdiction in these proceedings, including in regard to the area in dispute between the Parties that is also claimed by India, than there was for the Court of Arbitration in the *Anglo-French Continental Shelf Case*. By addressing the claims of Bangladesh and Myanmar to this disputed area, ITLOS will not only resolve the dispute between the two Parties to these proceedings; it will also facilitate a comprehensive and final settlement among all three claimants in the Bay of Bengal. Once ITLOS establishes the respective rights of Bangladesh and Myanmar vis-à-vis each other, it will be clearer to them and to India which State is entitled to make a claim in respect to a delimitation that overlaps with a claim by India, and the extent of those overlapping claims.

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<sup>133</sup> *Ibid.* at para. 28.

<sup>134</sup> The Arbitral Tribunal in the dispute with India was constituted on 10 February 2010 and held its first meeting on 26 May 2010. The Tribunal will be presided by Judge Rüdiger Wolfrum. The other members of the Tribunal are Judge Tullio Treves, Professor Ivan Shearer, Professor Vaughan Lowe QC (appointed by Bangladesh), and Mr. P.S. Rao (appointed by India). The Permanent Court of Arbitration will serve as registry to the Tribunal.

Indeed, if ITLOS sustains Bangladesh's claims in the outer continental shelf – as set forth in Chapter 7 – and rules that all of the outer shelf area in dispute between Bangladesh and Myanmar falls on Bangladesh's side of the maritime boundary, then only Bangladesh and India will have overlapping claims in this area. Those may then be definitively resolved in the Annex VII arbitration between Bangladesh and India.

4.39 The ICJ has not declined to exercise jurisdiction in maritime boundary delimitation cases because of the actual or potential claims of third States in regard to the area to be delimited. In *Cameroon v. Nigeria*, Nigeria objected to the admissibility of Cameroon's claim based on the fact that a third State, Equatorial Guinea, had also asserted a claim to a portion of the maritime space to be delimited by the Court. The Court ruled that Nigeria's objection was not of an exclusively preliminary character, and went forward with the delimitation.<sup>135</sup> Although the Court proceeded cautiously in order to avoid prejudicing the third-party claimant, it did not decline to exercise jurisdiction or rule the claim inadmissible because of the third State's interests. Similar approaches were taken *inter alia*, in *Qatar v. Bahrain*<sup>136</sup> and *Nicaragua v. Honduras*,<sup>137</sup> where jurisdiction was exercised and maritime boundaries were delimited even though third States had, or were thought to have, competing claims.

### Conclusions

4.40 For the foregoing reasons, ITLOS has jurisdiction over all of the claims presented in Bangladesh's Statement of Claim dated 8 October 2009 by virtue of the Special Agreement between the Parties, and the fact that all of the claims fall under the 1982 Convention. The claims over which ITLOS may exercise jurisdiction include those pertaining to the continental shelf beyond 200 M since those claims fall under the Convention. The jurisdiction of ITLOS is not affected by India's claim to a part of the disputed area beyond 200 M, since the judgment to be rendered in this case will not be binding on India and, by definition cannot affect its rights. However, a judgment by ITLOS as to the merits of the respective claims of

<sup>135</sup> *Land and Maritime Boundary between Cameroon and Nigeria*, Preliminary Objections, Judgment, I. C. J. Reports 1998, p. 275, at paras. 116-117.

<sup>136</sup> *Maritime Delimitation and Territorial Questions between Qatar and Bahrain*, Merits, Judgment, I.C. J. Reports 2001, at para. 221.

<sup>137</sup> *Territorial and Maritime Dispute between Nicaragua and Honduras in the Caribbean Sea*, Judgment, International Court of Justice, 8 October 2007, at para. 312.

Bangladesh and Myanmar to that disputed area will have the great advantage of allowing the Annex VII Tribunal in the dispute between Bangladesh and India to resolve the dispute.

## CHAPTER 5

### DELIMITATION OF THE TERRITORIAL SEA

5.1 In this Chapter, Bangladesh sets forth its arguments concerning the delimitation of the territorial sea. As described in Chapter 3 relating to the history of the dispute, since 1974 Bangladesh and Myanmar have been in agreement on the delimitation of the maritime boundary in their territorial seas. This Chapter describes that agreement, and is divided into two sections. **Section I** succinctly addresses the law applicable to the delimitation of the territorial sea, and **Section II** describes the 1974 agreement between the Parties. The existence of this agreement is further established, *inter alia*, by the Parties' mutual and consistent practice for more than three decades, which reflects a common recognition of the agreed line.

#### I. Applicable Law

5.2 Although the regime of the territorial sea is long-standing, the applicable rules of international law were not codified until 1958. In April that year, States meeting in Geneva for the first United Nations Conference on the Law of the Sea adopted four conventions governing the rights and uses of maritime areas, including the 1958 Convention on the Territorial Sea and Contiguous Zone (the "1958 Territorial Sea Convention").<sup>138</sup>

5.3 Article 1(1) of the 1958 Territorial Sea Convention codified existing international law and provided that:

The sovereignty of a State extends, beyond its land territory and its internal waters, to a belt of sea adjacent to its coast, described as the territorial sea.

5.4 The Convention contributed to the development of new international rules by stating for the first time the principles applicable to the delimitation of territorial seas between coastal States. Article 12(1) established what has been referred to as the "equidistance/special circumstances" rule. In particular, it provided that "failing agreement", the territorial sea boundary between States would be "the median line every point of which is equidistant from

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<sup>138</sup> The other three 1958 conventions were: the Convention on the Continental Shelf, the Convention on the High Seas, and the Convention on Fishing and Conservation of the Living Resources of the High Seas.

the nearest points on the baselines from which the breadth of the territorial seas of each of the two States is measured". An exception was made, however, in cases "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 with this provision".

5.5 Pakistan (of which Bangladesh was then a part) signed all four of the 1958 conventions on 31 October 1958, including the 1958 Territorial Sea Convention. Myanmar (then Burma) did not sign or become a party to any of these conventions.

5.6 Twenty four years after the adoption of the 1958 conventions, States adopted the 1982 United Nations Convention on the Law of the Sea, which codified and further developed a comprehensive and integrated regime combining all maritime areas into a single instrument. The 1982 Convention largely followed the 1958 Territorial Sea Convention's approach in respect of the regime of the territorial sea. Article 15 of the 1982 Convention mirrors the provisions of Article 12 of the 1958 Convention, providing:

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.<sup>139</sup>

Thus, as with the 1958 Convention, Article 15 of the 1982 Convention makes clear that absent agreement, historic title or other "special circumstances" the boundary in the territorial sea will follow a median (or equidistance) line.

5.7 Although of academic interest, it is not necessary here to explore the varied circumstances that may justify a departure from equidistance principles in the territorial sea. No such inquiry is warranted in this case since, as described in Chapter 3 and in further detail

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<sup>139</sup> In *Maritime Delimitation and Territorial Questions between Qatar and Bahrain*, the ICJ noted that Article 15 of the 1982 Convention, "is virtually identical to Article 12, paragraph 1, of the 1958 Convention on the Territorial Sea and the Contiguous Zone, and is to be regarded as having a customary character". *Maritime Delimitation and Territorial Questions between Qatar and Bahrain (Qatar v. Bahrain)*, Merits, Judgment, I.C.J. Reports 2001, p. 40, at para. 176.

below, as early as 1974, Bangladesh and Myanmar reached an agreement on their boundary in the territorial sea that satisfies the requirements of Article 15.

## II. Agreement on the Delimitation of the Territorial Sea

5.8 As described in Chapter 3, Bangladesh's and Myanmar's efforts to delimit their territorial sea boundary began in the mid 1970s, soon after Bangladesh attained independence from Pakistan. They reached agreement in November 1974, at their second round of negotiations. According to a contemporaneous Bangladesh account of the meeting, the Parties agreed that

the boundary line would be formed by a line extending seaward from Boundary point No. 1 in the Naaf River to the point of intersection of areas 12 nautical miles from the southern most tip of St. Martin's Island (Bangladesh) and the nearest point on the coast on the Burmese mainland, connecting the intermediate point which were the mid-points between the nearest point on the coast of St. Martin's Island and the coast of [the] Burmese mainland.<sup>140</sup>

The two delegations confirmed the terms of their agreement and gave it clear expression by jointly plotting the agreed line on Special Chart No. 114, which was signed by the heads of both delegations. A copy of the signed chart can be found at **Figure 3.2** (in Volume II only). As can be seen, the agreed delimitation is a line mid-way between points on St. Martin's Island and the Myanmar mainland coast.

5.9 Four days later, the Parties' agreement was reduced to writing in the form of the "Agreed Minutes Between the Bangladesh Delegation and the Burmese Delegation Regarding the Delimitation of the Maritime Boundary Between the Two Countries", dated 23 November 1974. With respect to the territorial sea boundary, the Agreed Minutes provided:

The boundary will be formed by a line extending seaward from Boundary Point No. 1 in the Naaf River to the point of intersection of arcs of 12 nautical miles from the southernmost tip of St. Martin's Island and the nearest point on the coast of the Burmese mainland, connecting the intermediate points, which are mid-points between the nearest points on the coast of St. Martin's Island and the coast of the Burmese mainland.<sup>141</sup>

<sup>140</sup> Government of Bangladesh, *Brief Report on Bangladesh-Burma Negotiations on Maritime Boundary* (19-25 November 1974), at para. 3. MB, Vol. III, Annex 14.

<sup>141</sup> See the Governments of Bangladesh and Myanmar, *Agreed Minutes of the Meeting Between the Bangladesh Delegation and the Burmese Delegation Regarding the Delimitation of the Maritime Boundary* (23 November 1974) (hereinafter "1974 Agreement"). MB, Vol. III, Annex 4.

Special Chart No. 114, signed by the heads of both delegations, was annexed to the Agreed Minutes. The Agreed Minutes also reflect Myanmar's statement that the agreement was subject to a guarantee that its ships would have the right of free and unimpeded navigation through Bangladesh's territorial sea around St. Martin's Island to and from the mouth of the Naaf River.<sup>142</sup>

5.10 As noted in Chapter 3, Bangladesh prepared a draft treaty and presented it to Myanmar.<sup>143</sup> Myanmar did not sign the document, not because it disagreed with the line, but because it preferred to incorporate the Parties' agreement into a comprehensive maritime delimitation treaty including the continental shelf and economic zones.<sup>144</sup>

5.11 Over the next five years, the Parties held five rounds of talks, mainly on the delimitation of the areas beyond the territorial sea. The issue of the territorial sea was raised briefly in talks held in Rangoon in February 1975, and only for the purpose of reiterating that the Parties had, in fact, "settled the boundary line on territorial waters and an agreed Minute accompanying a map indicating the general alignment of the boundary line was signed by the Leaders of the respective delegations".<sup>145</sup>

5.12 In the years that followed, the territorial sea was treated as a settled issue by both Parties. Neither Party raised any concerns or suggested a different approach. Having delimited the territorial sea, the Parties focused their talks on the delimitation of the maritime boundaries in the areas beyond the territorial sea, in the continental shelf and the EEZ.

5.13 In their practise too, the two States treated their territorial sea boundary as a settled agreement. For nearly 35 years, their mutual, consistent, and sustained conduct adhered to the line agreed in 1974. In particular, each Party exercised peaceful and unchallenged

<sup>142</sup> *Ibid.* at para. 3.

<sup>143</sup> *Ibid.* at para. 5; Draft Agreement between the Government of the People's Republic of Bangladesh and the Socialist Republic of Burma Relating to the Delimitation of the Boundaries of the Territorial Waters between the Two Countries (1974). MB, Vol. III, Annex 3.

<sup>144</sup> *Brief Report on Bangladesh-Burma Negotiations on Maritime Boundary* (19-25 November 1974), at para. 7. (stating that Myanmar was "not inclined to conclude a separate treaty/agreement on the delimitation of territorial waters; they would like to conclude a single comprehensive treaty where the boundaries of territorial waters and continental shelf were incorporated"). MB, Vol. III, Annex 14.

<sup>145</sup> Government of Bangladesh, *Brief Report on Bangladesh-Burma Maritime Boundary Talks* (14-19 February 1975) at para. 3. MB, Vol. III, Annex 15.

administration and control over its agreed territorial sea. As agreed, Bangladesh permitted vessels from Myanmar to navigate freely and without impediment through its territorial waters around St. Martin's Island to and from the Naaf River.

5.14 As discussed more fully in Chapter 3, the territorial sea was next discussed in early 2008, at which time the Parties' delegations used the occasion to reconfirm the validity and effectiveness of the 1974 agreement. They jointly decided that "the agreed minutes of [ ] 1974 will remain the same",<sup>146</sup> subject to the two minor updates described in Chapter 3.<sup>147</sup>

5.15 The Parties' enduring commitment to the 1974 line is perhaps most emphatically illustrated in their actions re-plotting the seven agreed points onto a more up-to-date and authoritative chart, Admiralty Chart No. 817. This updated chart is shown at **Figure 3.3** (following page 38). The coordinates of each of the seven points were specifically included in the Agreed Minutes from the Parties' April 2008 meeting, signed by both delegations, and can be found in footnote 32 in Chapter 3.<sup>148</sup> The remainder of the Parties' discussion at that meeting focused on the delimitation of the continental shelf and the EEZ.

5.16 Only in September 2008, 34 years after the adoption of the 1974 agreement, did Myanmar for the first time suggest that the agreement was no longer in force. No valid reasons were given. As noted in Chapter 3, Myanmar merely stated that it did not agree to the last point on the delimitation line (Point 7), and that because the 1974 agreement pre-dated the 1982 Convention, it should be "annulled".<sup>149</sup> For its part, Bangladesh reminded Myanmar that it had twice specifically agreed to all seven points, first in the Agreed Minutes of November 1974 and again in the Agreed Minutes of April 2008. It also reminded Myanmar

<sup>146</sup> Governments of Bangladesh and Myanmar, *Agreed Minutes of the Meeting Between the Bangladesh Delegation and the Myanmar Delegation Regarding the Delimitation of the Maritime Boundary* (1 April 2008) (hereinafter "*Agreed Minutes of Bangladesh-Myanmar Meeting Regarding Maritime Boundary Delimitation* (1 April 2008)"), at para. 3. MB, Vol. III, Annex 7.

<sup>147</sup> Memorial of Bangladesh (hereinafter "MB"), Chapt. 3, paras. 3.28-3.29.

<sup>148</sup> *Agreed Minutes of Bangladesh-Myanmar Meeting Regarding Maritime Boundary Delimitation* (1 April 2008). MB, Vol. III, Annex 7.

<sup>149</sup> Government of Bangladesh, *Report of the Visit by the Bangladesh Delegation to Myanmar Regarding the Delimitation of Maritime Boundary* (4-5 September 2008) (hereinafter "*Report of the Visit by the Bangladesh Delegation to Myanmar Regarding the Delimitation of Maritime Boundary* (4-5 September 2008)"), at para. 5. MB, Vol. III, Annex 18.



that on both dates, the Parties had jointly plotted the agreed points on a map (Special Chart No. 114 in 1974 and Admiralty Chart No. 817 in 2008).<sup>150</sup>

5.17 At the next meeting, in November 2008, Myanmar again changed tack. It abandoned its “annulment” theory and acknowledged that the Parties had indeed reached agreement on Points 1 through 6 of the delimitation line.<sup>151</sup> While, at first, it argued that Point 7 had been “left open”,<sup>152</sup> it then conceded “that in the second round of technical level talks in Dhaka in November 1974, in accordance with the decision of its Cabinet, Myanmar accepted median line from the mouth of Naaf River up to point number 7 subject to the completion of a treaty on delimiting EEZ/Continental Shelf”.<sup>153</sup>

5.18 Given these indisputable facts, Bangladesh submits that the 1974 Agreement was intended to be and is valid, binding, and effective. It created rights and obligation on both States and was signed – on two occasions – by duly authorized representatives of each. It therefore constitutes an “agreement” within the meaning of Article 15 of the 1982 Convention. Indeed, the Agreed Minutes of 1974 specifically use that very term in referring to Myanmar’s “agreement” to the delimitation of the territorial sea.<sup>154</sup>

5.19 Even assuming, *quod non*, that the 1974 Agreement is not an agreement within the meaning of Article 15, the fact that Bangladesh and Myanmar conducted themselves in accordance with the agreed delimitation for over three decades demonstrates at the very least the existence of a tacit or *de facto* agreement as to the boundary line in the territorial sea. Bangladesh and Myanmar both exercised peaceful and unchallenged administration and control over their agreed territorial seas, and, in reliance on the existing agreement, Bangladesh permitted Myanmar’s vessels to navigate freely through its waters in the vicinity of St. Martin’s Island to reach the Naaf River.

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<sup>150</sup> *Ibid.* at para. 6.

<sup>151</sup> Government of Bangladesh, *Report on Bangladesh-Myanmar Maritime Delimitation Technical Level Talks (16-17 November 2008)* (hereinafter “*Report on Bangladesh-Myanmar Maritime Delimitation Technical Level Talks (16-17 November 2008)*”), at para. 13. MB, Vol. III, Annex 19.

<sup>152</sup> *Ibid.*

<sup>153</sup> *Ibid.* at para. 17.

<sup>154</sup> 1974 Agreement at para. 3. MB, Vol. III, Annex 4.

5.20 Indeed, fundamental considerations of justice require that Myanmar is estopped from claiming that the 1974 agreement is anything other than valid and binding. In this respect, Bangladesh recalls the *Temple of Preah Vihear Case*.<sup>155</sup> There, the International Court of Justice found that a 1907 map of the land frontier between Thailand (then Siam) and Cambodia, drawn up by the French Government (Cambodia's protecting power) was accepted by Thailand without "reaction, within a reasonable period, on the part of the [Thai] authorities".<sup>156</sup> On this basis, the ICJ ruled that

Thailand is precluded by her conduct from asserting that she did not accept [the French map]. She has, for fifty years, enjoyed such benefits as the Treaty of 1904 conferred on her, if only the benefit of a stable frontier. France, and through her Cambodia, relied on Thailand's acceptance of the map. ... It is not now open to Thailand, while continuing to claim and enjoy the benefits of the settlement, to deny that she was ever a consenting party to it.<sup>157</sup>

The ICJ concluded that:

Both Parties, by their conduct, recognized the line and thereby in effect agreed to regard it as being the frontier line.<sup>158</sup>

5.21 The ICJ's reasoning and conclusion apply equally in the present case. For over thirty years, Myanmar enjoyed the benefits of the 1974 Agreement, including not only the benefit of a stable maritime boundary but also the right of free passage through Bangladesh's territorial waters.

5.22 For its part, Bangladesh relied on Myanmar's acceptance of the 1974 Agreement by, among other things, permitting that free passage – something it need not have done in the absence of agreement. In addition, Bangladesh's coastal fishermen, including many of the 7,000 people who live on St. Martin's Island and depend on fish for their diet and livelihoods, have relied on the 1974 line in the conduct of their fishing activities in the areas between St. Martin's Island and the Myanmar coast.<sup>159</sup>

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<sup>155</sup> *Case Concerning the Temple of Preah Vihear (Cambodia v. Thailand)*, Merits, Judgment, ICJ Reports 1962 p. 6 (hereinafter "*Temple of Preah Vihear Case*").

<sup>156</sup> *Ibid.* at p. 23.

<sup>157</sup> *Ibid.* at p. 32.

<sup>158</sup> *Ibid.* at p. 33.

<sup>159</sup> See Sirajur Rahman Khan et al., "St. Martin's Island and its Environmental Issues", Geological Survey of Bangladesh (2002), at p. 2. MB, Vol. IV, Annex 49; see also Shakuntala Thilsted et al., "The Role of Small

5.23 The facts satisfy all the elements of an estoppel:

1. Myanmar made repeated, unequivocal statements agreeing to and affirming the territorial sea delimitation first agreed in 1974;
2. Myanmar's statements and conduct were voluntary and unconditional; and
3. Bangladesh relied on the agreement and Myanmar's subsequent affirmations in good faith to its own detriment.

### Conclusions

5.24 For the reasons described above, ITLOS's task with respect to the delimitation of the territorial sea between Bangladesh and Myanmar is straight forward. It need do no more than confirm the existence of a valid and binding agreement between the Parties as first reached in 1974 and affirmed repeatedly since, including by their mutual, consistent, and sustained conduct. Even in the unlikely event that ITLOS were to conclude that the 1974 Agreement is not an "agreement" within the meaning of Article 15 of the 1982 Convention, the result would be no different. Myanmar would remain bound to the 1974 line both as a tacit agreement and under established principles of estoppel.

5.25 Accordingly, the territorial sea boundary as agreed between Bangladesh and Myanmar in 1974 and in force ever since is depicted in **Figure 5.1** (in Volume II only). The end point of that line, Point 7, is located at 20° 22' 56.6" N - 92° 24' 24.2" E (WGS 84); this also constitutes the starting point for the Parties' maritime boundary in the continental shelf within 200 M and the exclusive economic zone. That boundary is addressed in Chapter 6.

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Indigenous Fish Species in Food and Nutrition Security in Bangladesh", *Naga, The ICLARM Quarterly Supplement* (July-December 1997), at pp. 82-83. MB, Vol. III, Annex 35.

**CHAPTER 6****DELIMITATION OF THE CONTINENTAL SHELF WITHIN 200 M AND THE EEZ**

6.1 This Chapter sets forth Bangladesh's legal arguments on the delimitation of the continental shelf within 200 M and the EEZ. Bangladesh's claims concerning the continental shelf in the area beyond 200 M are presented in Chapter 7.

6.2 Bangladesh submits that the continental shelf within 200 M and the EEZ should be delimited by means of a line following a geodesic azimuth of 215°, beginning at the outer limit of the territorial sea boundary as described in Chapter 5 and extending up to the 200 M limit. This line, which is the bisector of the angle formed by the intersection of the coastal façades of the two States, is depicted in **Figure 6.1** (following page 68). The end point of the 215° line (located at 17° 43' 58.1 N – 90° 28' 43.4" E (WGS 84)) would serve as both the outer limit of the EEZ and the starting point for the delimitation of the outer continental shelf, a matter addressed in Chapter 7.

6.3 Bangladesh's presentation in this Chapter is organized as follows: **Section I** reviews the applicable law, and discusses the origins and content of the juridical regime of the continental shelf and the EEZ. It also addresses the most pertinent aspects of the international judicial and arbitral case law concerning the delimitation of the continental shelf and the EEZ that has been developed by the International Court of Justice and international arbitral tribunals over the past four decades. **Section II** addresses the delimitation of the continental shelf within 200 M and the EEZ between Bangladesh and Myanmar. Bangladesh will show that in the particular geographic circumstances of this case, delimitation of the maritime boundary by means of equidistance produces a result that is not equitable within the meaning of Articles 74 and 83 of the 1982 Convention. Accordingly, this case calls for an alternative delimitation methodology. In conformity with the existing case law developed both by the ICJ and international arbitral tribunals, Bangladesh submits that the angle-bisector method is the most appropriate and equitable alternative in the context of this case. As will be seen, the angle-bisector method leads to a result that is both consistent with the prevailing geographic realities in the Bay of Bengal and equitable to both Parties.

## I. The Applicable Law

### A. The Regime of the Continental Shelf within 200 M and the EEZ

6.4 The regime of the continental shelf is governed by Part VI of the 1982 Convention (comprising Articles 76 to 85). Article 76(1) defines the continental shelf of a coastal State as

the seabed and subsoil of the submarine 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 nautical miles 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.

6.5 Coastal States are thus entitled to a continental shelf extending either (a) to a distance of 200 M, or (b) to the outer edge of the continental margin when that margin extends beyond 200 M. As discussed further in Chapter 7 relating to the delimitation of the outer continental shelf, Articles 76(4) and (5) impose limits beyond which a State's continental shelf may not extend.

6.6 Article 77(1) provides that a coastal State "exercises over the continental shelf sovereign rights for the purpose of exploring it and exploiting its natural resources". Article 77(3) reaffirms Article 2(3) of the 1958 Continental Shelf Convention, and makes clear that a coastal State's rights over the continental shelf are inherent; they "do not depend on occupation, effective or notional, or on any express proclamation".

6.7 Unlike the territorial sea regime, which is well-established, the regime of the continental shelf is more recent, emerging in its modern form with the Truman Proclamation of 28 September 1945. It was first codified in the 1958 Convention on the Continental Shelf.

6.8 From the outset, the idea of the continental shelf as – in the words of the Truman Proclamation – "an extension of the land-mass of the coastal nation" has formed an essential element of the governing legal regime.<sup>160</sup> In its 1969 Judgment in the *North Sea Cases*, the International Court of Justice gave expression to this concept as the "natural prolongation" of

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<sup>160</sup>Presidential Proclamation 2667, "Policy of the United States With Respect to the Natural Resources of the Subsoil and Sea Bed of the Continental Shelf" (1 October 1945), reprinted in *U.S. Federal Register* Vol. 10, p. 12,303 (2 October 1945) (hereinafter "Truman Proclamation"). MB, Vol. III, Annex 8.

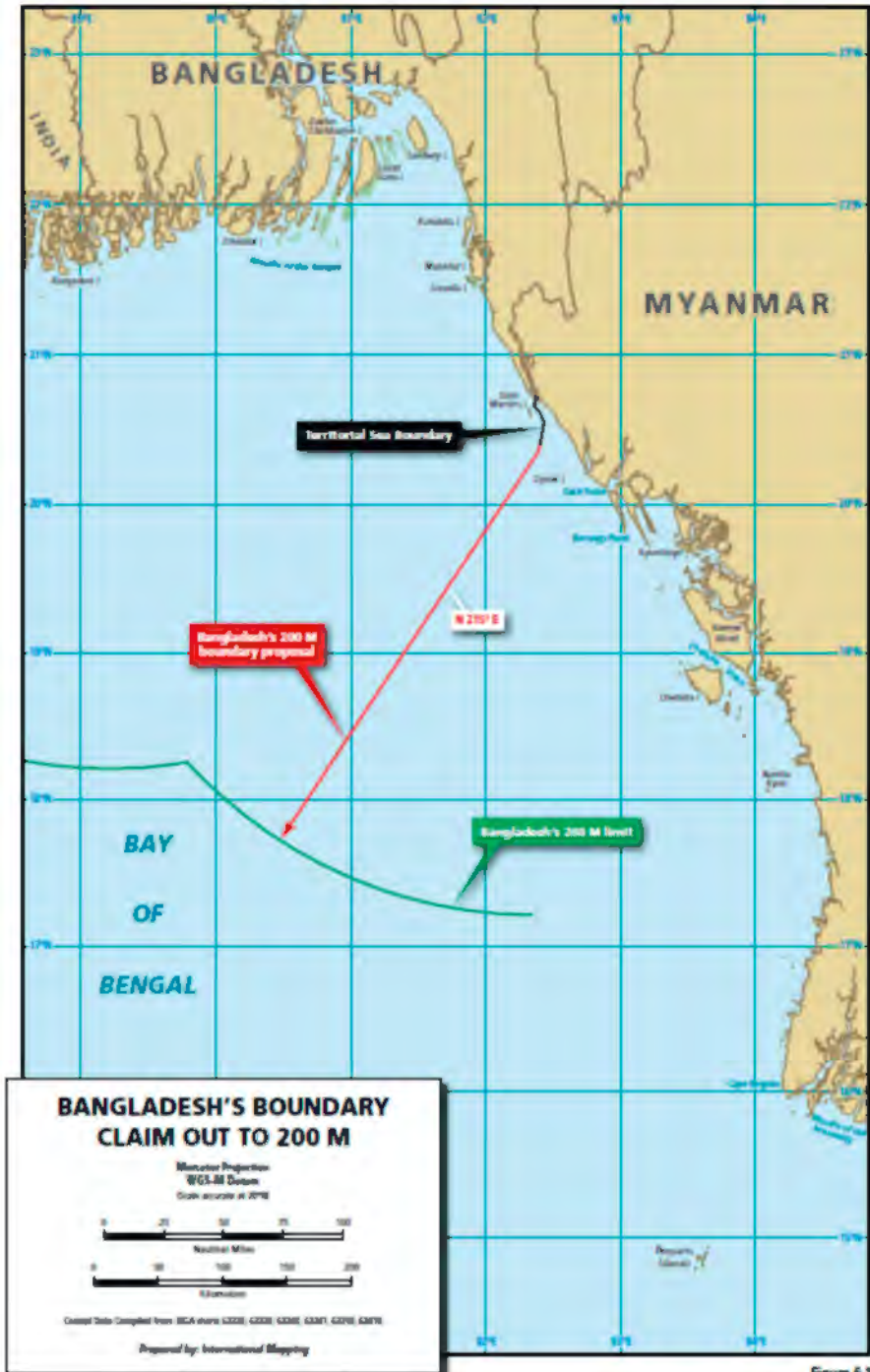


Figure 6.1

the land territory of the coastal State “into and under the high seas”.<sup>161</sup> According to the Court:

There are various ways of formulating this principle, but the underlying idea, namely of an extension of something already possessed, is the same, and it is this idea of extension which is, in the Court’s opinion, determinant. ... What confers the ipso jure title which international law attributes to the coastal State in respect of its continental shelf, is the fact that *the sub-marine areas concerned may be deemed to be actually part of the territory over which the coastal States already has dominion, – in the sense that, although covered with water, they are a prolongation or continuation of that territory, an extension of it under the sea.*<sup>162</sup>

6.9 The ICJ’s conception was subsequently incorporated into Article 76(1) of the 1982 Convention.<sup>163</sup> To be sure, natural prolongation as such is no longer relevant to a coastal State’s title over the continental shelf *within* 200 M. UNCLOS Article 76(1) makes clear that coastal States enjoy a presumptive entitlement to a continental shelf of 200 M regardless of whether or not they can establish the physical continuation of their land territory out to that distance. The ICJ made this point in its 1985 Judgment in the *Libya v. Malta* case.<sup>164</sup> Nonetheless, as discussed in greater detail in Chapter 7, natural prolongation is the basis of entitlement in the area *beyond* 200 M.

6.10 The exclusive economic zone is of even more recent provenance than the continental shelf. It is governed by Part V of UNCLOS (comprising Articles 55 to 74 of the 1982 Convention). Article 55 defines the exclusive economic zone as

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<sup>161</sup> *North Sea Continental Shelf (Federal Republic of Germany/Denmark; Federal Republic of Germany/Netherlands)*, Judgment, I.C.J. Reports 1969, p. 3 (hereinafter “*North Sea Cases*”), at para. 43.

<sup>162</sup> *Ibid.* (emphasis added).

<sup>163</sup> M. Nordquist et al., eds., *United Nations Convention on the Law of the Sea 1982: A Commentary*, Vol. II (1993) (hereinafter “*Virginia Commentary*”), at p. 846. MB, Vol. III, Annex 32.

<sup>164</sup> Specifically, the Court stated:

The Court however considers that since the development of the law enables a State to claim that the continental shelf appertaining to it extends up to as far as 200 miles from its coast, whatever the geological characteristics of the corresponding sea-bed and subsoil, there is no reason to ascribe any role to geological or geophysical factors within that distance either in verifying the legal title of the States concerned or in proceeding to a delimitation as between their claims.

*Continental Shelf (Libyan Arab Jamahiriya v. Malta)*, Judgment, I.C.J. Reports 1985, p. 13 (hereinafter “*Libya v. Malta*”), at para. 39.

an area beyond and adjacent to the territorial sea, subject to the specific legal regime established in this Part, under which the rights and jurisdiction of the coastal State and the rights and freedoms of other States are governed by the relevant provisions of this Convention.

6.11 Article 56 sets out the three categories of rights which a coastal State has in its EEZ: sovereign rights to explore, exploit, conserve, and manage the natural resources of the waters superjacent to the seabed and of the seabed and its subsoil; jurisdiction over artificial islands, installations, and structures; and such other rights and duties as provided by the 1982 Convention. The interrelationship between these rights and continental shelf rights is reflected in Article 56(3), which provides that EEZ rights and duties with respect to the seabed and subsoil are to be exercised “in accordance with Part VI”.

6.12 Article 57 provides that “The exclusive economic zone shall not extend beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured”.

6.13 Under the 1982 Convention, the principles governing the delimitation of the continental shelf and the EEZ are the same. In respect of the continental shelf, Article 83(1) provides: “The delimitation of the continental shelf between States with opposite or adjacent coasts shall be effected by agreement on the basis of international law, as referred to in Article 38 of the Statute of the International Court of Justice, in order to achieve an equitable solution”. Article 74(1) provides for the same principles to be applied in relation to the delimitation of the EEZ.

6.14 The provisions of Article 83 of the 1982 Convention concerning the delimitation of the continental shelf represent a clear break from the 1958 Convention on the Continental Shelf which, in Article 6, gave the equidistance method an express role:

the boundary of the continental shelf shall be determined by agreement between [the coastal States]. In the absence of agreement, and unless another boundary line is justified by special circumstances, the boundary shall be determined by application of the principle of equidistance from the nearest points of the baselines from which the breadth of the territorial sea of each State is measured.<sup>165</sup>

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<sup>165</sup> Convention on the Continental Shelf, 499 UNTS 311 (29 April 1958), entered into force 10 June 1964.



By contrast, Article 83 (and Article 74) of the 1982 Convention give equidistance no similar role. Instead, they provide only that the goal of any delimitation should be an “equitable solution”.

6.15 The reason for the change is clear. In the negotiations leading to the 1982 Convention, it was not possible to reach consensus on a text that gave equidistance an express role. Many coastal States questioned the wisdom of giving equidistance such prominence.<sup>166</sup> It was felt that the circumstances are too many and too varied in which equidistance does not yield an equitable result.<sup>167</sup> Consequently, consensus was only possible around the broader “equitable solution” provision.

#### B. International Judicial and Arbitral Practice

6.16 Since the late 1960s, a body of international judicial and arbitral practice has developed concerning first, the delimitation of the continental shelf and later, the delimitation of the EEZ. This jurisprudence, and in particular that of the ICJ, has led to the development of a consistent and coherent set of principles applicable to the delimitation of the EEZ and continental shelf – at least within 200 M. To date, however, no international court or tribunal has delimited competing claims in the outer continental shelf. This Tribunal will likely be the first to do so.<sup>168</sup> Before turning to the application of these principles to the delimitation at hand, *five* general points should be emphasized.

6.17 *First*, in accordance with the international judicial practice, Bangladesh submits that the Tribunal should identify a single line to delimit the seabed and subsoil, and the superjacent water column. Although the 1982 Convention contains separate provisions relating to the delimitation of the EEZ and the continental shelf, international practice has largely converged around the drawing of a “single maritime boundary” to delimit both zones within 200 M. As the ICJ observed in its Judgment in the *Qatar v. Bahrain* case:

[T]he concept of a single maritime boundary does not stem from multilateral treaty law but from State practice, and finds its explanation in the wish of

<sup>166</sup> *Virginia Commentary* at p. 954. MB, Vol. III, Annex 32.

<sup>167</sup> *Ibid.* at pp. 957, 959, 964, 977. MB, Vol. III, Annex 32.

<sup>168</sup> Issues concerning the delimitation of the outer continental shelf have been presented to the ICJ in the *Case Concerning Territorial and Maritime Dispute (Nicaragua v. Colombia)*. Whether the Court reaches those issues and, if so, when, are currently unknown.

States to establish one uninterrupted boundary line delimiting the various – partially coincident – zones of maritime jurisdiction appertaining to them.<sup>169</sup>

In *Guyana v. Suriname*, the Annex VII Tribunal noted that a single maritime boundary serves “to avoid the difficult practical problems that could arise were one Party to have rights over the water column and the other rights over the seabed and subsoil below that water column”.<sup>170</sup> These considerations should apply equally in this case.

6.18 *Second*, although the jurisprudence recognises a nominal distinction between the approaches for delimiting the territorial sea, on the one hand, and the EEZ/continental shelf within 200 M, on the other, those approaches are, in fact, “closely interrelated”.<sup>171</sup> As discussed in Chapter 5, Article 15 of the 1982 Convention establishes the “equidistance/special circumstances” rule for delimiting the territorial sea. By contrast, Articles 74 and 83 state nothing more than that the delimitation must effect an “equitable solution”. As developed in the case law, this has given rise to what is now commonly referred to as the “equitable principles/relevant circumstances rule” applicable to delimitation of the continental shelf within 200 M and the EEZ. The two rules, however, are substantially the same. In both cases, the standard approach is now to begin by provisionally drawing an equidistance line and then to consider whether there are “special” or “relevant” circumstances which require an adjustment to – or abandonment of – that line.<sup>172</sup> Virtually all of the most recent cases, whether before the ICJ or international arbitral tribunals, have adopted this approach, including: *Land and Maritime Boundary Between Cameroon and Nigeria (Cameroon v. Nigeria)* (ICJ 1998), *Barbados v. Trinidad and Tobago* (Annex VII 2006), *Guyana v. Suriname* (Annex VII 2007), and *Maritime Delimitation in the Black Sea (Romania v. Ukraine)* (ICJ 2009).

<sup>169</sup> *Maritime Delimitation and Territorial Questions between Qatar and Bahrain (Qatar v. Bahrain)*, Merits, Judgment, I.C.J. Reports 2001, p. 40 (hereinafter “*Qatar v. Bahrain*”), at para. 173.

<sup>170</sup> *Delimitation of Maritime Boundary between Guyana and Suriname*, Award, 17 September 2007, available at <http://www.pca-cpa.org/upload/files/Guyana-Suriname%20Award.pdf> (hereinafter “*Guyana/Suriname*”), at para. 334. Reproduced in MB, Vol. V.

<sup>171</sup> *Qatar v. Bahrain* at para. 231. The Court again described the two methods as “very similar” in the *Cameroon v. Nigeria* case the following year. *Land and Maritime Boundary between Cameroon and Nigeria (Cameroon v. Nigeria: Equatorial Guinea Intervening)*, Merits, Judgment, I.C.J. Reports 2002 at p. 303 (hereinafter “*Cameroon v. Nigeria*”), at para. 288.

<sup>172</sup> *Qatar v. Bahrain* at para. 230.

6.19 That said, it has been widely recognized that equidistance is more likely to achieve an equitable solution in the territorial sea than in the continental shelf/EEZ. This is particularly true in the case of adjacent States. The reason is simple. Because the territorial sea is, by definition, closer to the coastlines of the relevant States, the distorting effects of coastal irregularities on an equidistance line will tend to “be very slight”.<sup>173</sup> It is different in the continental shelf and EEZ. As the International Court of Justice first observed in the *North Sea Cases*:

[T]he distorting effects of lateral equidistance lines under certain conditions of coastal configurations are nevertheless comparatively small within the limits of territorial waters, but produce their maximum effect in the localities where the main continental shelf areas lie further out.<sup>174</sup>

6.20 A *third* and related general point is that notwithstanding the now-common use of a provisional equidistance line at the outset of the delimitation process, that does not mean there is a presumption in favour of equidistance. It is merely the starting point for analysis, not the end point. As the ICJ recently stated in *Nicaragua v. Honduras*:

[T]he equidistance method does not automatically have priority over other methods of delimitation and, in particular circumstances, there may be factors which make the application of the equidistance method inappropriate.<sup>175</sup>

Similarly, in the *Libya v. Malta* case, the Court observed:

[T]he equidistance method is not the only method applicable to the present dispute and does not even have the benefit of a presumption in its favour. Thus, under existing law, it must be demonstrated that the equidistance method leads to an equitable result in the case in question.<sup>176</sup>

This is as it must be. Any other approach would be inconsistent with the provisions of Articles 74 and 83, and their mandate that the goal of the delimitation process is an “equitable solution”.

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<sup>173</sup> *North Sea Cases* at para. 8.

<sup>174</sup> *Ibid.* at para. 59.

<sup>175</sup> *Territorial and Maritime Dispute between Nicaragua and Honduras in the Caribbean Sea (Nicaragua v. Honduras)*, Judgment, I.C.J. Reports 2007 (hereinafter “*Nicaragua v. Honduras*”), at para. 272; see also *Libya v. Malta* at para. 223.

<sup>176</sup> *Libya v. Malta* at para. 63; see also *Qatar v. Bahrain* at para. 223 (citing *Continental Shelf (Tunisia/Libyan Arab Jamahiriya)*, Judgment, I.C.J. Reports 1982, p. 18 (hereinafter “*Tunisia/Libya*”), at para. 63).

6.21 The purpose of using equidistance as the first step in the analytical process is pragmatic. Because it is essentially a mathematical construct, an equidistance line is

capable of being employed in almost all circumstances, however singular the results might sometimes be, and has the virtue that if necessary – if for instance, the Parties are unable to enter into negotiations, – any cartographer can de facto trace such a boundary on the appropriate maps and charts, and those traced by competent cartographers will for all practical purposes agree.<sup>177</sup>

It therefore combines a “practical convenience” and “certainty of application” that make it a useful point of departure.<sup>178</sup>

6.22 Nonetheless, equidistance’s pitfalls and its propensity to produce unfair results have long been recognized. As the ICJ first observed in 1969: “It would however be ignoring realities if it were not noted at the same time that the use of this method [*i.e.*, equidistance] ... can under certain circumstances produce results that appear on the face of them to be extraordinary, unnatural or unreasonable”.<sup>179</sup> The Court noted:

[I]n certain geographical circumstances which are quite frequently met with, the equidistance method, despite its known advantages, leads unquestionably to inequity, in the following sense:

- (a) The slightest irregularity in a coastline is automatically magnified by the equidistance line as regards the consequences for the delimitation of the continental shelf. Thus it has been seen in the case of concave or convex coastlines that if the equidistance method is employed, then the greater the irregularity and the further from the coastline the area to be delimited, the more unreasonable are the results produced.<sup>180</sup>

6.23 The ICJ echoed these concerns in *Libya v. Malta*:

[S]ince an equidistance line is based on a principle of proximity and is therefore controlled only by salient coastal points, it may yield a disproportionate result where a coast is markedly irregular or markedly concave or convex. In such cases, the raw equidistance method may leave out of the calculation appreciable lengths of coast, whilst at the same time giving

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<sup>177</sup> *North Sea Cases* at para. 22.

<sup>178</sup> *Ibid.* at para. 23.

<sup>179</sup> *Ibid.* at para. 24.

<sup>180</sup> *Ibid.* at para. 89.

undue influence to others merely because of the shape of coastal relationships.<sup>181</sup>

6.24 In *Gulf of Maine*, the ICJ Chamber hearing the case noted further inadequacies in the equidistance method where small rocks and islands were involved:

[T]he Chamber likewise would point out the potential disadvantages inherent in any method which takes tiny islands, uninhabited rocks or low-tide elevations, sometimes lying at a considerable distance from terra firma, as basepoint [sic] for the drawing of a line intended to effect an equal division of a given area. If any of these geographical features possess some degree of importance, there is nothing to prevent their subsequently being assigned whatever limited corrective effect may equitably be ascribed to them, but that is an altogether different operation from making a series of such minor features the very basis for the determination of the dividing line...<sup>182</sup>

6.25 The Court recently showed that equidistance does not enjoy a privileged status in an emphatic way: by discarding it altogether. In its 2007 judgment in *Nicaragua v. Honduras*, the Court found it useless to construct even a provisional equidistance line due to the unstable geography at the mouth of the river that formed the two States' land boundary terminus.<sup>183</sup> It therefore eschewed equidistance in favour of an altogether different approach. In particular, the Court used the angle-bisector method: it first depicted the general direction of each party's coast by means of a straight line and then bisected the angle formed by those two lines to determine the course of their maritime boundary.<sup>184</sup> This same method was also used to delimit the maritime boundaries in the *Gulf of Maine* case and in the *Guinea/Guinea Bissau* case decided by a court of arbitration comprised of three sitting members of the ICJ.<sup>185</sup>

6.26 The *fourth* general point is that there is no fixed set of circumstances which may qualify as the necessary "relevant circumstances" for purposes of justifying an adjustment to, or abandonment of, the equidistance line in any given case. As the *Guyana/Suriname Annex VII Tribunal* stated: "International courts and tribunals are not constrained by a finite list of

<sup>181</sup> *Libya/Malta* at para. 56.

<sup>182</sup> *Delimitation of the Maritime Boundary in the Gulf of Maine Area (Canada/United States of America)*, Judgment, I.C.J. Reports 1984, p. 246 (hereinafter "*Gulf of Maine*"), at para 201.

<sup>183</sup> *Nicaragua v. Honduras* at para. 311.

<sup>184</sup> *Ibid.* at paras. 295-298, 320.

<sup>185</sup> *Gulf of Maine* at paras. 213, 223, 243; *Guinea/Guinea Bissau* at para. 130.

special circumstances”.<sup>186</sup> ICJ jurisprudence is to the same effect. In the *North Sea Cases*, for instance, the Court observed:

In fact, there is no legal limit to the considerations which States may take account of for the purpose of making sure that they apply equitable procedures, and more often than not it is the balancing-up of all such considerations that will produce this result rather than reliance on one to the exclusion of all others. The problem of the relative weight to be accorded to different considerations naturally varies with the circumstances of the case.<sup>187</sup>

In *Libya v. Malta*, the Court confirmed that there is “assuredly no closed list of considerations” which may be evaluated under the rubric of relevant circumstances.<sup>188</sup> And in the *Jan Mayen* case, after having found that it was appropriate “to begin the process of delimitation by a median line provisionally drawn”,<sup>189</sup> the ICJ stated that it was “now called upon to examine *every particular factor of the case* which might suggest an adjustment or shifting of [that] line”.<sup>190</sup> Precisely because the goal of the delimitation process is an “equitable solution”, and equity can only be determined contextually, every case must be judged according to its own circumstances.

6.27 Since the *North Sea Cases*, 15 maritime boundary judgments have been issued by the Court and international arbitral tribunals. Only two of these cases (*Cameroon v. Nigeria* and *Guyana/Suriname*) resulted in a maritime boundary made up of a strict equidistance line. In all the other 13 cases, the maritime boundary fixed by the Court or arbitral tribunal was either determined by reference to a methodology other than equidistance or an equidistance line modified to take account of the particular circumstances of the case.

6.28 *Fifth*, the jurisprudence indicates that in any delimitation, the final step in the process is to confirm that the proposed delimitation line does not lead to a disproportionate result. In the words of the ICJ in its most recent delimitation decision, the *Romania v. Ukraine Case*, the purpose of this disproportionality test is to “check that the result thus far arrived at, so far as the envisaged delimitation line is concerned, does not lead to any significant

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<sup>186</sup> *Guyana/Suriname* at para. 302.

<sup>187</sup> *North Sea Cases* at para. 302.

<sup>188</sup> *Libya v. Malta* at para. 93.

<sup>189</sup> *Maritime Delimitation in the Area between Greenland and Jan Mayen (Denmark v. Norway)*, Judgment, I.C.J. Reports 1993, p. 38 (hereinafter “*Jan Mayen*”), at paras. 48 and 53.

<sup>190</sup> *Ibid.* at para. 54 (emphasis added).

disproportionality by reference to the respective coastal lengths and the apportionment of areas that ensue”.<sup>191</sup> In this respect, the ICJ and arbitral tribunals alike have made it clear that:

the law does not require a delimitation based upon an endeavour to share out an area of overlap on the basis of comparative figures for the length of the coastal fronts and the areas generated by them. The task of a tribunal is to define the boundary line between the areas under the maritime jurisdiction of two States; the sharing-out of the area is therefore the consequence of the delimitation, not vice versa.<sup>192</sup>

Accordingly, “it is disproportion rather than any general principle of proportionality which is the relevant criterion or factor ... there can never be a question of completely refashioning nature ... it is rather a question of remedying the disproportionality and inequitable effects produced by particular geographical configurations or features”.<sup>193</sup>

## II. The Delimitation of the Maritime Boundary between Bangladesh and Myanmar

### A. The Equidistance Line Claimed by Myanmar

6.29 Against this background, Bangladesh addresses the delimitation of the continental shelf within 200 M and the EEZ between Bangladesh and Myanmar in the Bay of Bengal. In accordance with the jurisprudence, the first step is provisionally to identify an equidistance line. Since negotiations began in 1974, Myanmar has insisted on its view that an equidistance line should generally follow an azimuth of approximately 243° from the end of the territorial sea boundary agreed in 1974 out to the 200 M limit. Although Myanmar has never specifically identified the basepoints on which its proposal was made, its proposed 243° line corresponds almost precisely with an equidistance line drawn using basepoints located on the Parties’ coasts. The direction of the equidistance line claimed by Myanmar is reflected in **Figure 1.1** (following page 4).

<sup>191</sup> *Maritime Delimitation in the Black Sea (Romania v. Ukraine)*, Judgment, I.C.J. Reports 2009 (hereinafter “*Romania v. Ukraine*”), at para. 210.

<sup>192</sup> *Jan Mayen* at para. 64.

<sup>193</sup> *Delimitation of the Continental Shelf between France and the United Kingdom*, Decision, 30 June 1977, reprinted in 18 RIAA 3, at para. 101 (cited with approval in, *inter alia*, *Romania v. Ukraine* at para. 210).

## B. The Inequity of the Equidistance Line

### 1. *The Cut-Off Effect*

6.30 As noted in Chapter 2, the land territory of Bangladesh is located at the northern limit of the Bay of Bengal in a broad and deep concavity between Myanmar in the east and India in the west. Measured in the general direction of the coast, Bangladesh's coastline is approximately 421 km in length. This substantial coastline generates a correspondingly substantial maritime entitlement in the continental shelf within 200 M and the EEZ. Yet, because Bangladesh is tucked between Myanmar and India in the concavity described by the Bay of Bengal's north coast, Myanmar's proposed equidistance line converges a short distance in front of the Bangladesh coast with the equidistance line India has claimed as its maritime boundary with Bangladesh. Together, the two lines create a "cut-off" effect that deprives Bangladesh of the overwhelming majority of its maritime entitlement.

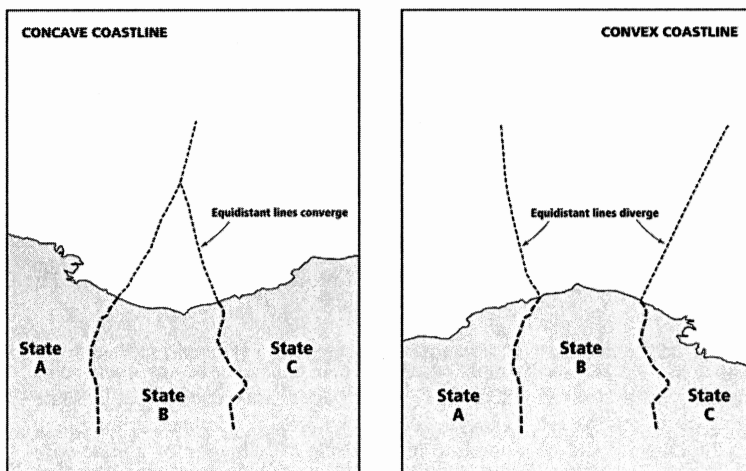
6.31 The combined effect of the equidistance lines claimed by Myanmar and India is shown in **Figure 1.1** (following page 4). The two lines quickly meet and truncate Bangladesh's maritime entitlement at a distance of just 137 M from the Bangladesh coast, leaving it with a narrow wedge of maritime space. Notwithstanding Bangladesh's substantial 421 km coastline, the equidistance lines claimed by its neighbours would prevent it from reaching even its 200 M limit, much less its natural prolongation in the outer continental shelf beyond 200 M (discussed further below and in Chapter 7).

6.32 Bangladesh's predicament is not unique. To the contrary, coastal irregularities like the concavity in the northern Bay of Bengal are among the recognized circumstances where equidistance does not result in an equitable solution. The problem has even been noted and depicted in the *Handbook on the Delimitation of Maritime Boundaries*, published by the United Nations Office for Legal Affairs, Division for Ocean Affairs and the Law of the Sea, which reads in pertinent part:

The relevance of convexity or concavity of the relevant coastline was highlighted by the International Court of Justice in the 1969 North Sea Continental Shelf cases. The distorting effects of the equidistance method in



the presence of a concave or convex coastline is shown in the following illustration.<sup>194</sup>



Adapted from UN Office of Legal Affairs, Division for Ocean Affairs and the Law of the Sea, *Handbook on Delimitation of Maritime Boundaries* (2000), at p. 30.

Figure 6.2

In the depiction on the left, notwithstanding the fact that State B has a coastline roughly equal in size to the coastlines of States A and C, its maritime space narrows rapidly and terminates prematurely simply because it happens to be located at the centre of a concavity that pushes the two equidistance lines together shortly in front of its coast.

6.33 To this extent, Bangladesh is in a situation very similar to that of the Federal Republic of Germany in the *North Sea Cases*, decided by the ICJ in 1969. Those cases involved the delimitation of the continental shelf boundaries among Germany and the Kingdoms of Denmark and the Netherlands. Much like Bangladesh, Germany is situated in its own concavity on the southeast coast of the North Sea pinched between the Netherlands (to the west) and Denmark (to the north). Because of this concavity, equidistance lines drawn between Germany and its two neighbours converged directly in front of its coast, leaving it with a narrow triangle of maritime space. Germany's predicament is depicted in **Figure 6.3** (in Volume II only).

<sup>194</sup> United Nations, Division for Ocean Affairs and the Law of the Sea, *Handbook on the Delimitation of Maritime Boundaries* (2000), at p. 30, para. 143. Figure 6.2.

6.34 It is noteworthy that Germany specifically used the example of Bangladesh (then East Pakistan) to make its case back in the late 1960's. In particular, in arguing that "by making the distance from the nearest coastal points the absolute criterion, [equidistance] necessarily attributes undue weight to projecting parts of the coast, and so not infrequently leads to inequitable solutions", Germany used the Bay of Bengal as a model, and presented a figure depicting the cut-off equidistance would work on East Pakistan.<sup>195</sup> That figure appears in Chapter 1 of this Memorial as **Figure 1.2** (at page 4).

6.35 Due to the concavity on the North Sea coast, the ICJ concluded that equidistance-based boundaries in the continental shelf would not produce an equitable result. The Court explained:

Equity does not necessarily imply equality. There can never be any question of completely refashioning nature, and equity does not require that a State without access to the sea should be allotted an area of continental shelf, any more than there could be a question of rendering the situation of a State with an extensive coastline similar to that of a State with a restricted coastline. Equality is to be reckoned within the same plane, and it is not such natural inequalities as these that equity could remedy. But *in the present case there are three States whose North Sea coastlines are in fact comparable in length and which, therefore, have been given broadly equal treatment by nature except that the configuration of one of the coastlines would, if the equidistance method is used, deny to one of these States treatment equal or comparable to that given the other two.* Here indeed is a case where, in a theoretical situation of equality within the same order, an inequity is created. *What is unacceptable in this instance is that a State should enjoy continental shelf rights considerably different from those of its neighbours merely because in the one case the coastline is roughly convex in form and in the other it is markedly concave, although those coastlines are comparable in length.* It is therefore not a question of totally refashioning geography whatever the facts of the situation but, given a geographical situation of quasi-equality as between a number of States, of abating the effects of an incidental special feature from which an unjustifiable difference of treatment could result.<sup>196</sup>

6.36 The Court's reasoning is equally applicable to Bangladesh today. Bangladesh and Myanmar have, as the ICJ put it in the *North Sea Cases*, "been given broadly equal treatment by nature except that the configuration of one of the coastlines would, if the equidistance

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<sup>195</sup> Memorial of the Federal Republic of Germany (21 August 1967), at para. 44 (available from the ICJ website).

<sup>196</sup> *Ibid.* at para. 91 (emphasis added).

method is used, deny to one of these States treatment equal or comparable to that given the other". Such a result would be as inequitable for Bangladesh as it was for Germany.

6.37 The inequitableness of the situation can also be viewed from a different perspective. As adjacent coastal States with broadly comparable coasts facing onto the high seas, there is no reason in principle why Bangladesh and Myanmar should not have broadly comparable rights to extend their maritime jurisdiction as far seaward as international law permits; *i.e.*, at least to 200 M. Yet, solely by virtue of the concave configuration of the Bay of Bengal coast, equidistance would limit Bangladesh to an area that is well short of the 200 M limit, while giving Myanmar an extensive outlet towards the high seas.

6.38 **Figure 6.4** (in Volume II only) graphically depicts this anomaly. The coastlines of Bangladesh, Myanmar, and India in the northern Bay of Bengal are presented, along with the 200 M limits drawn from the Parties' coasts. The portions of the 200 M limit facing north towards Bangladesh are highlighted, as are the sections of the Myanmar and Indian coastlines that control these portions of the 200 M limit. In this view, the coastlines of all three States are described by means of broad arcs that trace the outlines of the concavity that is so central to this case. Bangladesh occupies fully 34% of the concavity, yet it does not reach any portion of the 200 M limit. Conversely, Myanmar, the coast of which comprises 32% of the concavity, and India, which takes up 34%, have access to 38% and 62% of the 200 M limit, respectively. Again, Bangladesh gets zero. The inequitableness of this result is plain.

6.39 The inequity of limiting Bangladesh to the small wedge of maritime space that equidistance would give it is exacerbated by the fact that fish from the Bay of Bengal are a key component of the national diet. Fish are the main source of animal protein and other vital nutrients for poor, rural households, where malnutrition remains an ever-present threat.<sup>197</sup> Given the density of the country's population, large-scale animal husbandry is simply not a practicable alternative. Fishing is also a major source of employment. It provides full-time employment for at least two million people, and another 10 million are involved in the fishing trade part-time.<sup>198</sup> Many Bangladeshis, for example, fish part-time simply to meet their

<sup>197</sup> Nanna Roos et al., "Small Indigenous Fish Species in Bangladesh: Contribution to Vitamin A, Calcium and Iron Intakes", *The Journal of Nutrition*, Vol. 133 (2003), at p. 4021S.

<sup>198</sup> Md. Ferdous Alam and Kenneth J. Thompson, "Current Constraints and Future Possibilities for Bangladesh Fisheries", *Food Policy*, Vol. 26 (2001), at pp. 297, 298.

subsistence needs.<sup>199</sup> To deny Bangladesh an equitable apportionment of the waters of the Bay of Bengal would therefore be to deny its people a fair share of a resource on which they depend heavily.

6.40 Although the geographical circumstance in which Bangladesh finds itself are broadly similar to that of Germany in 1969, its case against equidistance is even stronger than were Germany's in the *North Sea Cases*. First, the law has evolved in the intervening 41 years. At the time of the *North Sea Cases*, international law gave equidistance a dominant role. In particular, Article 6(2) of the 1958 Convention on the Continental Shelf provided that, but for "special circumstances", the boundary "*shall be determined by application of the principle of equidistance*".<sup>200</sup> By contrast, Articles 74 and 83 of the 1982 Convention do not give equidistance a primary – or even express – role. Instead, they state only that delimitations shall be effected in order to achieve "an equitable solution".

6.41 *Second*, equidistance would work a substantially more pronounced inequity on Bangladesh than it did on Germany. Due to the presence of the United Kingdom on the opposite side of the North Sea, Germany's continental shelf entitlement could extend no further than approximately 170 M from its coast before running up against the median line drawn between continental Europe and the United Kingdom. The two provisional equidistance lines drawn between Germany and the Netherlands and Denmark, respectively, cut Germany off 94 M short of that limit.

6.42 The cut-off effect that equidistance would have on Bangladesh is more pronounced. As described in Chapters 2 and 3, based on the controlling geological and geomorphological circumstances, Bangladesh has a claim to a substantial area of continental shelf beyond 200 M. Indeed, because (as described in Chapter 7) the outer limits of Bangladesh's claim are defined by a line drawn 100 M beyond the 2,500 m isobath, approximately 370 M from its coastline the equidistance methodology would truncate Bangladesh's sovereign rights fully 255 M short of the limit permitted by the 1982 Convention in the area beyond 200M. The comparative inequity of equidistance to Germany and Bangladesh is depicted graphically in **Figure 6.5** (in Volume II only).

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<sup>199</sup> *Ibid.*

<sup>200</sup> Emphasis added.

2. *It Is Inequitable to Prevent Bangladesh from Exercising Sovereign Rights in the Continental Shelf Beyond 200 M*

6.43 In fact, Bangladesh's need for access to its entitlement in the outer continental shelf constitutes an independent "relevant circumstance" that warrants application of a methodology other than equidistance. Although related to the cut-off effect described just above, it is also analytically distinct from it and constitutes a separate reason for rejecting equidistance as inequitable.

6.44 As noted in Section II in relation to the applicable law, there is no closed set of considerations that judicial and arbitral tribunals acting under the 1982 Convention may take into account in identifying the requisite "relevant circumstances" that merit a departure from equidistance.<sup>201</sup> Since the aim of any delimitation is an equitable solution, and equity can only be judged in context, a court or tribunal is free to assess the entirety of the case before determining what circumstances may be deemed sufficiently relevant to merit alternatives to equidistance. Here, for the reasons that are described below and also in Chapter 7 relating to the delimitation of the outer continental shelf, Bangladesh's entitlement to exercise sovereign rights beyond 200 M is a relevant circumstance that, by itself, warrants a rejection of equidistance.

6.45 What makes Bangladesh's need for access to the outer continental shelf so compelling is not merely the fact that it has a claim beyond 200 M of which equidistance would entirely deprive it (although that is certainly part of it). More than that, what makes denial of Bangladesh's sovereign rights in an outer continental shelf so inequitable is the fact that those portions of the continental shelf lying beyond 200 M in the Bay of Bengal plainly constitute the "natural prolongation" of the Bangladesh landmass above all others. To deny Bangladesh any access to this area – indeed, to cabin it within an area within 137 M from its coast – would constitute an inequity of the highest order.

6.46 It is not Bangladesh's intent here to present its case relating to the delimitation of the outer continental shelf. That is done in Chapter 7. The essential point for present purposes is merely that the physical connection between the land territory of Bangladesh and the

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<sup>201</sup> MB, para. 6.26.

continental shelf beyond 200 M is so strong and so direct that it more than any other State can claim the seabed in that area as its “natural prolongation” in precisely the sense articulated by the ICJ in the *North Sea Cases*; that is, it quite literally constitutes the extension of Bangladesh’s land territory into and under the sea.<sup>202</sup> By contrast, as more fully explained in Chapter 7, Myanmar has no natural prolongation into the Bay of Bengal beyond 200 M. Yet, as shown in that Chapter, an equidistance-based boundary would give Myanmar access to the outer continental shelf while denying it to Bangladesh.

3. *The Entire Course of the Equidistance Line Is Determined by a Single, Insignificant Feature*

6.47 One of the recognized problems with equidistance – noted repeatedly in the jurisprudence – is that it gives equal effect to all coastal features without regard to their size or significance.<sup>203</sup> For exactly that reason, it can yield a result that is not only inequitable, but wholly inconsistent with the dominant geographic realities in the area.

6.48 To say that the equidistance line is “inconsistent with the dominant geographic realities” in this case is a serious understatement. A more apt description might be that it bears no relation whatsoever to the dominant geographic realities. This is shown by the basepoints that determine the course of the equidistance line. In contrast to the situation on the Bangladesh side, where basepoints are located across the full breadth of its coast, on the Myanmar side, there is only a single basepoint that determines the entire course of the equidistance line. Moreover, this single basepoint is located on a tiny, unpopulated feature located some 10.5 M offshore.

6.49 The feature in question is Oyster Island, a recent satellite image of which appears in **Figure 6.6** (in Volume II only). It measures just 235 m at its longest point and some 100 m at its widest. The British first built a lighthouse on it in the late 19<sup>th</sup> century and some other structures of unknown purpose have been added since. All are, however, confined to a narrow, 100 m stretch of the island that presumably constitutes its most highly elevated portion.

<sup>202</sup> MB, para. 6.31 and Chapter 7.

<sup>203</sup> See, e.g., the discussion of *North Sea Cases*, *Libya v. Malta*, *Gulf of Maine* in MB, paras. 6.22-6.24.

6.50 Oyster Island has no permanent population and cannot sustain one. It has no source of fresh water and no economic life of its own. To count this “island” as a basepoint – much less as the *only* basepoint – for the drawing of the maritime boundary between Bangladesh and Myanmar in the continental shelf within 200 M and the EEZ leads to a manifestly inequitable result. It raises precisely the concerns about using “tiny islands, uninhabited rocks or low-tide elevations, sometimes lying at a considerable distance from terra firma” as “the very basis for the determination of the dividing line” that the ICJ Chamber expressed in the *Gulf of Maine* case.<sup>204</sup>

6.51 There are numerous examples in which international courts and tribunals have ignored insignificant features like Oyster Island in the delimitation of maritime boundaries. In its 2009 judgment in the *Romania v. Ukraine Case*, for example, the ICJ decided to ignore Serpents’ Island, located some 19 M off Ukraine’s mainland coast. The Court stated:

To count Serpents’ Island as a relevant part of the coast would amount to grafting an extraneous element onto Ukraine’s coastline; the consequence would be a judicial refashioning of geography, which neither the law nor practice of maritime delimitation authorizes.<sup>205</sup>

6.52 Yet, Serpents’ Island is a major feature compared to Oyster Island. Between the two, Serpents’ Island is by far larger. Serpents’ Island is almost eight times the size of Oyster Island, has its own sources of fresh water and played an important part in the history of the region.<sup>206</sup> For the sake of comparison, an aerial photograph of Serpents’ Island is presented in **Figure 6.6** beneath the satellite image of Oyster Island.

6.53 The ICJ’s decision to ignore Serpents’ Island for purposes of drawing the delimitation line is not an isolated example. Others include the *Case Concerning Maritime Delimitation and Territorial Questions Between Qatar and Bahrain (Qatar v. Bahrain)*, where the International Court of Justice decided to disregard the “very small island” of Qit’at Jaradah because:

if its low-water line were to be used for determining a basepoint in the construction of the equidistance line, and this line taken as the delimitation

<sup>204</sup> MB, para. 6.24 (citing *Gulf of Maine* at para. 201).

<sup>205</sup> *Romania v. Ukraine* at para. 149.

<sup>206</sup> Counter-memorial of Ukraine (19 May 2006), at paras. 3.40-3.46.

line, a disproportionate effect would be given to an insignificant maritime feature.<sup>207</sup>

6.54 The Court similarly decided to give no effect to the island of Fasht al Jarim, which it described as “a remote projection of Bahrain’s coastline in the Gulf area, which, if given full effect, would ‘distort the boundary and have disproportionate effects’”.<sup>208</sup> In its Judgment, the Court cited the *Libya/Malta* case for the proposition that “the equitableness of an equidistance line depends on whether the precaution is taken of eliminating the disproportionate effect of certain ‘islets, rocks and minor coastal projections’”.<sup>209</sup> In that case, the ICJ disregarded the islet of Filfla, five km south of the main island of Malta.<sup>210</sup>

6.55 In those cases, the ICJ remedied the problem caused by insignificant islands and other small or anomalous features by ignoring them in the construction of the equidistance line. But that solution does not work here. Oyster Island is the *only* feature on Myanmar’s coast that controls the direction of the entire equidistance line from start to finish. No other portions of Myanmar’s coast come into play. Under the circumstances, the only equitable solution is to set equidistance aside and use an alternative methodology to fix the boundary between Bangladesh and Myanmar in the continental shelf within 200 M and the EEZ.

### C. The Angle-Bisector Method

#### 1. Use of the Method by the ICJ and Arbitral Tribunals

6.56 As stated, concave coasts like that in the northern Bay of Bengal are among the earliest recognized situations where equidistance produces irrational results. The ICJ’s decision in the *North Sea Cases* has already been discussed at some length. In the 1985 *Libya v. Malta* case, the Court echoed its prior observations, noting that “since an equidistance line is based on a principle of proximity and is therefore controlled only by salient coastal points, it may yield a disproportionate result where a coast is markedly irregular or markedly

<sup>207</sup> *Qatar v. Bahrain* at para. 219.

<sup>208</sup> *Ibid.* at para 247.

<sup>209</sup> *Ibid.* at para 246.

<sup>210</sup> *Libya v. Malta* at para. 64.



concave or convex”.<sup>211</sup> The central feature of this case is exactly that identified by the ICJ. Although nature has endowed Bangladesh with a substantial coastline, the concave configuration of that coast means that equidistance boundaries between it and Myanmar and India “produce results that appear on the face of them to be extraordinary, unnatural or unreasonable”.<sup>212</sup>

6.57 In circumstances like this, international courts and tribunals have turned to the angle-bisector method. As the ICJ recently observed in its 2007 judgment in the *Nicaragua v. Honduras* case: “The use of a bisector ... has proved to be a viable substitute method in certain circumstances where equidistance is not possible or appropriate”.<sup>213</sup> Continuing, the Court said:

Like equidistance, the bisector method is a geometrical approach that can be used to give legal effect to the ‘criterion long held to be as equitable as it is simple, namely that in principle, while having regard to the special circumstances of the case, one should aim at an equal division of areas where the maritime projections of the coasts of the States ... converge and overlap’.<sup>214</sup>

6.58 The bisector method involves two steps. *First*, the Parties’ coasts facing the delimitation area are rendered as straight lines depicting their general direction. *Second*, the angle formed by these straight lines is bisected to yield the direction of the delimitation line. Because the angle-bisector avoids equidistance’s narrow focus on micro-geographic features, it will frequently produce results that are more faithful to the predominant geographic circumstances of a given case. In the words of the ICJ: “The bisector method ... seeks to approximate the relevant coastal relationships but does so on the basis of the macro-geography of a coastline as represented by a line drawn between two lines on the coast”.<sup>215</sup>

6.59 The ICJ first utilized angle-bisectors in 1982 in *Tunisia/Libya*,<sup>216</sup> and has relied on them several times since, most recently in 2007. The Chamber’s decision in the 1984 *Gulf of*

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<sup>211</sup> *Ibid.* at para. 56

<sup>212</sup> *North Sea Cases* at para. 24.

<sup>213</sup> *Nicaragua v. Honduras* at para. 287.

<sup>214</sup> *Ibid.* at para. 287 (quoting *Gulf of Maine* at p. 327, para. 195).

<sup>215</sup> *Ibid.* at para. 289.

<sup>216</sup> *Tunisia/Libya* at p. 18, para. 129.

*Maine* case is perhaps the best known use of angle-bisectors. It explained its reliance on the bisector approach as follows:

[T]he Chamber considers that the practical method to be applied must be a geometrical one based on respect for the geographical situation of the coasts between which the delimitation is to be effected, and at the same time suitable for producing a result satisfying the repeatedly mentioned criterion for the division of disputed areas [*i.e.*, the equal division of the areas of overlap].<sup>217</sup>

6.60 In that case, the Chamber used two different bisectors to delimit separate segments of the maritime boundary between Canada and the United States. To determine the course of the boundary in the first segment, where the coasts of the parties were adjacent, the Chamber constructed straight-line coastal fronts running from the international boundary terminus to Cape Elizabeth (in the case of the United States) and Cape Sable (in the case of Canada). The bisector of the angle created by these two lines was then shifted, or transposed, to the agreed off-shore starting point for the maritime boundary, Point A, and adopted as the maritime boundary. The Chamber's methodology is depicted graphically on **Figure 6.7** (in Volume II only).

6.61 To determine the course of the boundary in the second segment, where the coasts of the parties were opposite to one another, the Chamber similarly established two coastal front lines to depict the general direction of each party's coast, in this regard the lines joining Cape Ann and Cape Cod (in the United States) and Brier Island and Cape Sable (in Canada). The bisector of these nearly parallel lines was then applied to the second segment of the maritime boundary, except that the line was adjusted slightly to the northeast to take account of the longer relevant coast of the United States.<sup>218</sup>

6.62 The most recent occasion in which the ICJ deployed the angle-bisector approach was, as stated, the *Nicaragua v. Honduras* case. There, the Court was faced with two coastlines that roughly formed a right triangle pointing towards the sea. The cape at the mouth of the River Coco, at which the two coastlines converged, was characterized by a "very active morpho-dynamism", which meant that the river mouth changed its shape on a regular basis

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<sup>217</sup> *Gulf of Maine* at p. 246, para. 213.

<sup>218</sup> *Ibid.* at para. 218.

and the islands in the mouth were highly unstable.<sup>219</sup> In these circumstances, the Court decided that equidistance, which would have depended on shifting basepoints determined by reference to an unstable coast, was an inappropriate method of delimitation. It opted instead to use the angle-bisector method which, because it takes account of the coastal relationship between the parties “on the basis of the macro-geography”, offered a practical solution to the difficulties presented by the use of equidistance.<sup>220</sup> The Court thus drew two straight-line coastal fronts and then bisected the angle formed by their intersection to define the maritime boundary between Nicaragua and Honduras in the Caribbean Sea.<sup>221</sup> The Court’s approach is depicted in **Figure 6.8** (in Volume II only).

6.63 The ICJ has not been alone in using the angle-bisector method when “equidistance is not possible or appropriate”.<sup>222</sup> International arbitral tribunals also have done so. Thus, the arbitral tribunal in the *Delimitation of the Maritime Boundary between Guinea and Guinea-Bissau*, which was comprised of three sitting ICJ judges, and chaired by former ICJ President Manfred Lachs, relied on an angle-bisector to delimit the maritime boundary at issue in that case. The arbitral tribunal’s approach is instructive in the circumstances of this case for at least two reasons.

6.64 *First*, it did not view its task solely from a bilateral perspective. Instead, it adopted a broader, regional perspective and sought a solution that not only (a) “would take overall account of the shape of [the West African] coastline”,<sup>223</sup> but also (b) would produce a delimitation that would “be suitable for equitable integration into the existing delimitations of the West African region, as well as future delimitations which would be reasonable to imagine from a consideration of equitable principles and the most likely assumptions”.<sup>224</sup>

<sup>219</sup> *Nicaragua v. Honduras* at para 32.

<sup>220</sup> *Ibid.* at para. 289.

<sup>221</sup> *Ibid.* at para. 298. A graphical depiction of the Court’s approach can be found after para. 320 of its Judgment.

<sup>222</sup> *Nicaragua v. Honduras* at para. 287.

<sup>223</sup> *Delimitation of Maritime Boundary between Guinea and Guinea-Bissau*, Award, 14 February 1985, reprinted in 25 ILM 252, at para. 108. Reproduced in MB, Vol. V.

<sup>224</sup> *Ibid.* at para. 109 (In order to do so, “it is necessary to consider how all these delimitations fit in with the general configuration of the West African coastline, and what deductions should be drawn from this in relation to the precise area concerned in the present delimitation”). In the *Libya v. Malta* case, the ICJ similarly took a regional perspective, stating that it “has to look beyond the area concerned in the case, and consider the general geographical context in which the delimitation will have to be effected”. (para. 69).

6.65 *Second*, the arbitral tribunal rejected equidistance in part for precisely the same reasons that make recourse to that method inappropriate in the Bay of Bengal. In particular, the tribunal discarded equidistance because of the concave configuration of the West African coast in the vicinity of the Guinea-Guinea Bissau boundary. In the words of the tribunal:

When in fact – as is the case here, if Sierra Leone is taken into consideration – there are three adjacent States along a concave coastline, *the equidistance method has the other drawback of resulting in the middle country being enclaved by the other two and thus prevented from extending its maritime territory as far seaward as international law permits*. In the present case, this is what would happen to Guinea, which is situated between Guinea-Bissau and Sierra Leone. Both equidistance lines envisioned arrive too soon at the parallel of latitude drawn from the land boundary between Guinea and Sierra Leone which Guinea has unilaterally taken as its maritime boundary.<sup>225</sup>

These words can be applied *mutatis mutandi* to Bangladesh and Myanmar.

6.66 Having rejected equidistance, the arbitral tribunal asked itself whether it would be possible “to find a method which does not have the drawbacks of the line of equidistance”.<sup>226</sup> The Tribunal answered its question by employing an angle-bisector. Specifically, it first drew a single straight line from Almadies Point (in Senegal) to Cape Shilling (in Sierra Leone) to approximate the “maritime façade” of the coast of “the whole of West Africa”,<sup>227</sup> because this “would give more weight to the general direction of the coastline”<sup>228</sup> and eliminate the distorting effects of the concavity in which Guinea sits. It then drew a perpendicular – the bisector of a 180° angle – to this straight line façade and adopted it as the maritime boundary. The arbitral tribunal’s methodology is shown in **Figure 6.9** (in Volume II only).

6.67 That said, the angle-bisector, like equidistance, is not an end in itself. It is useful as a tool only for achieving the goal required by Article 74 and 83; namely, an equitable solution. If it does not lead to a solution that is equitable in the circumstances of a given case, it is subject to whatever correction may be necessary. In *Gulf of Maine*, for instance, the ICJ Chamber shifted the angle-bisector in the second segment of the delimitation line slightly to

<sup>225</sup> *Ibid.* at para. 104 (emphasis added).

<sup>226</sup> *Ibid.* at para. 107.

<sup>227</sup> *Ibid.* at paras. 108, 110.

<sup>228</sup> *Ibid.* at para. 110.

the northeast to take account of the fact that the United States' relevant coast was longer than that of Canada.<sup>229</sup>

## 2. *Application to the Bangladesh-Myanmar Boundary*

6.68 For the reasons explained below, the angle-bisector methodology leads in this case to the equitable solution required by the 1982 Convention.

6.69 In applying this methodology, the first step is to render the Parties' coastlines facing the area to be delimited as straight-line coastal façades. In the case of Myanmar, its coastal façade is readily depicted by means of a line running from the land boundary terminus in the Naaf River southeast past Cheduba Island to the point where it abuts the mainland coast near Gwa Bay. Beyond that point, Myanmar's coast both (a) changes direction, and (b) is more than 200 M from the land boundary terminus with Bangladesh and therefore ceases to have any plausible significance in this delimitation. This coastal front, which follows an azimuth of 143°, can be seen in **Figure 6.10** (in Volume II only).

6.70 The general direction of Bangladesh's coast is more complicated to depict. In general, the Bangladesh coast faces south. The majority of it runs east-west along the coastal front of the Bengal Delta. As a result, Bangladesh could claim that the general direction of its coast is 270°. It recognizes, however, that account must be taken of the small portion of its coast that runs south-southeast from the east bank of the Meghna River to the land boundary terminus with Myanmar in the Naaf River. To take account of this change in direction, the 270° line can be rotated clockwise until it meets the Parties' land boundary terminus as depicted in **Figure 6.10**. The resulting coastal front line follows a bearing of 287°.

6.71 Rotating its coastal façade clockwise in this manner actually produces a result that is less favourable to Bangladesh than the 270° line. Nonetheless, Bangladesh accepts that depicting its coastal front by means of a 287° line is more consistent with the overall geographic realities of this case because it takes proper account of the entirety of its facing coast.

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<sup>229</sup> *Gulf of Maine* at paras. 218, 222.

6.72 Moreover, and quite apart from its other merits, portraying the general direction of Bangladesh's coast in this manner also has the advantage of eliminating the distorting effects of the "concavity within a concavity" that is the mouth of Bangladesh's Meghna River.

6.73 Having thus identified both Myanmar's and Bangladesh's straight-line coastal fronts, it is a simple arithmetic task to determine their bisector:  $215^\circ (287^\circ + 143^\circ) \div 2 = 215^\circ$ . Because this bisector intersects the coastal fronts of Bangladesh and Myanmar at their land boundary terminus in the Naaf River, not the end point of their agreed boundary in the territorial sea (Point 7 of the 1974 agreement), one final step is required. That is, the  $215^\circ$  line must be transposed slightly to the southeast so that it connects with Point 7, just as the ICJ Chamber transposed the angle-bisector so that it would connect with Point A in the *Gulf of Maine* case, the agreed starting point for the delimitation in that case (as reflected in **Figure 6.7**). The delimitation line so derived, commencing at Point 7, is portrayed in **Figure 6.11** (following this page).

### 3. *The Equitableness of the 215° Line*

6.74 The  $215^\circ$  bisector line avoids the problems inherent in equidistance without itself generating any inequities. Bangladesh is no longer enclaved inside a narrow area adjacent to its coast. Rather, it is enabled to exercise its sovereign rights first to the 200 M limit and from there into its natural prolongation in the outer continental shelf. The cut-off effect is, in a word, gone. By the same token, the  $215^\circ$  line works no inequity on Myanmar. It is not cut-off in any fashion. To the contrary, it retains a substantial outlet to its own 200 M limit.

6.75 As discussed in Section I above, the final step in the delimitation process is to confirm that the proposed delimitation line "does not lead to any significant disproportionality by reference to the respective coastal lengths and the apportionment of areas that ensue".<sup>230</sup> This is done by comparing the relative lengths of the parties' coasts to the amount of maritime area that a proposed delimitation would apportion to each of them. It is therefore necessary to measure both the lengths of the Parties' coasts and the sizes of the maritime areas resulting from the proposed delimitation. Here, the respective coastal façades of Bangladesh and

<sup>230</sup> *Romania v. Ukraine* at para. 210.

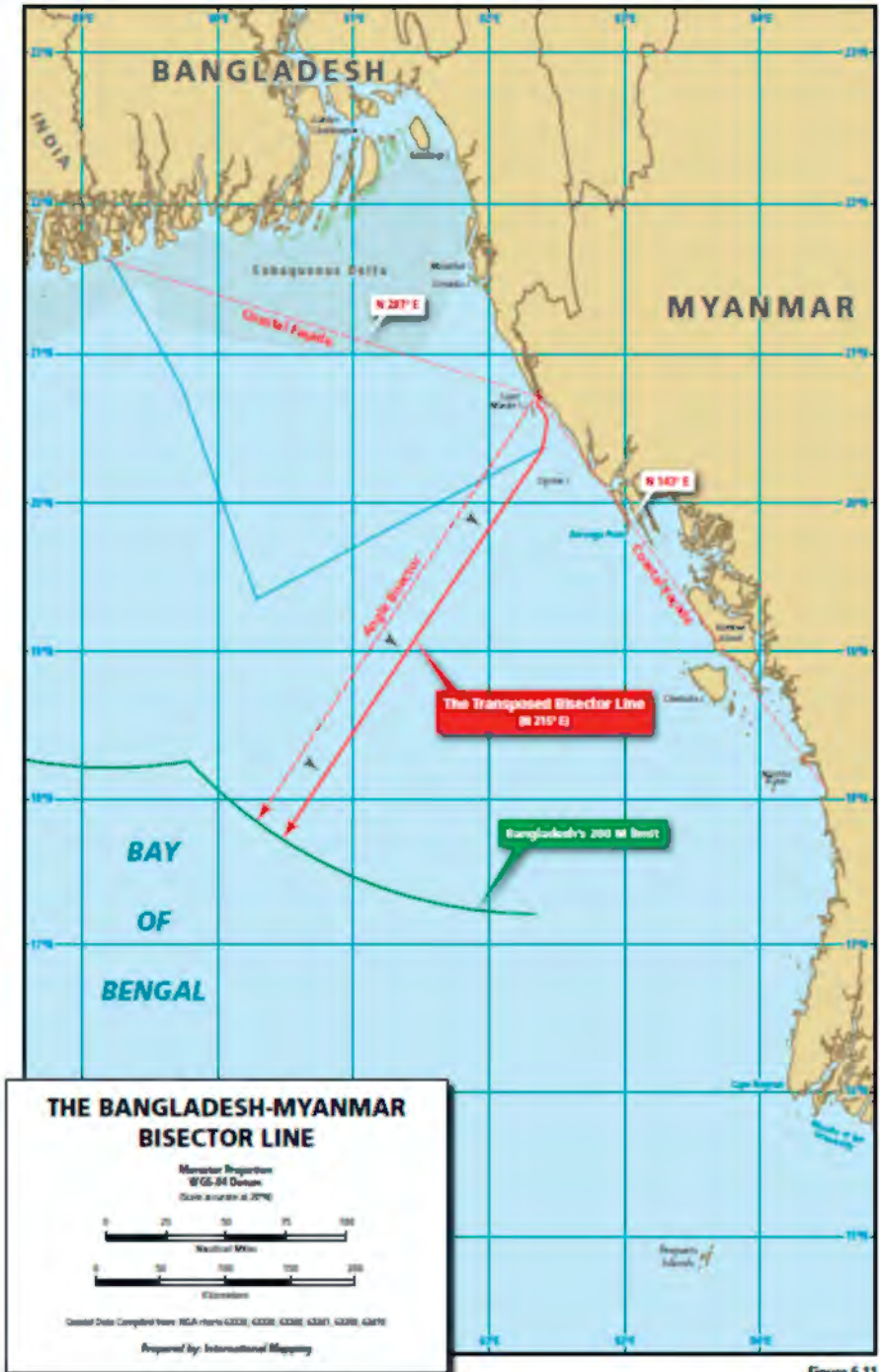


Figure 6.11

Myanmar as depicted in **Figures 6.10** and **6.11** are generally comparable. Point-to-point, Bangladesh's coastal front measures 349 km; Myanmar's measures 369 km.

6.76 Bangladesh submits that the maritime area to be apportioned is that situated in front of these coastal fronts and extending out to the 200 M limit, except only that areas claimed by third States should not be included because they cannot fairly be considered as appertaining to either Party. This maritime area thus to be delimited, together with the Parties' coastal front lines and the proposed 215° bisector line, is depicted in **Figure 6.12** (in Volume II only).<sup>231</sup> For the reasons just stated, areas to the west of the equidistance line claimed by India have been excluded from this depiction. Bangladesh receives 69,717 sq km and Myanmar 86,931 sq km. This result is consistent with the comparative lengths of the two States' coastal façades. If it is at all disproportionate, it is disproportionately unfavourable to Bangladesh. The ratio of the lengths of the Parties' coastal façades is 1.06:1 in favour of Myanmar. The ratio of maritime spaces, however, is 1.25:1 in favour of Myanmar, a number that is significantly less balanced towards Bangladesh. Myanmar therefore has no argument that the 215° line is inequitable to it.

6.77 The proportionality of the 215° bisector line can also be understood by reference to the extent of access to the 200 M limit – and thus to the outer continental shelf – that Bangladesh and its neighbours would receive. As previously shown in **Figure 6.4**, Bangladesh occupies 34% of the concavity in which it sits. Myanmar makes up 32%. Adopting the 215° line as the maritime boundary, Bangladesh would have 20% of the access to the 200 M limit. Myanmar, which has a slightly smaller percentage of the concavity than Bangladesh, would have 18% of the access to the 200 M limit, a close correspondence, and certainly better than Bangladesh, particularly taking account of Myanmar's substantial access to the 200 M limit in the area further south. This result is shown in **Figure 6.13** (in Volume II only).

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<sup>231</sup> The areas depicted do not include maritime areas for either party landward of their coastal fronts. Even if those areas were included, they would not materially affect the analysis. In Bangladesh's case, there are approximately 14,900 sq km of maritime space landward of its coastal front and in Myanmar's approximately 5,500 sq km. These numbers do not change any of the conclusions stated in the text.



6.78 It follows that under either type of proportionality analysis, there is no significant disproportionality. Myanmar is not in a position to argue that the 215° line is inequitable. In fact, it plainly constitutes the “equitable solution” that the 1982 Convention requires.

### **Conclusions**

6.79 For all the foregoing reasons, Bangladesh submits that ITLOS should delimit the maritime boundary between it and Myanmar in the continental shelf within 200 M and the EEZ by the angle-bisector method, and specifically by a line running along an azimuth of 215° from the end of the territorial sea boundary out to the 200 M limit from its coast (located at 17° 43' 58.1 N – 90° 28' 43.4” E (WGS 84)). The 215° line would eliminate the inequities associated with equidistance. It would avoid the cut-off effect that equidistance produces, and thereby allow Bangladesh both to extend its maritime jurisdiction to the full 200 M limit and to access its natural prolongation in the outer continental shelf. It would also produce a result that more proportionately – and therefore more equitably – distributes the relevant maritime area between Bangladesh and Myanmar in the northern Bay of Bengal.

6.80 The extension of this boundary into the outer continental shelf beyond 200 M is addressed in the next Chapter.

**CHAPTER 7****DELIMITATION OF THE CONTINENTAL SHELF BEYOND 200 NAUTICAL MILES**

7.1 This chapter addresses the delimitation of the continental shelf beyond 200 M from the point located at 17° 43' 58.1 N – 90° 28' 43.4" E (WGS 84). At paragraph 24 of its Statement of Claim, Bangladesh requested that ITLOS:

delimit in accordance with the principles and rules set forth in UNCLOS, the maritime boundary between Bangladesh and Myanmar in the Bay of Bengal, in ... the continental shelf, including the portion of the continental shelf pertaining to Bangladesh that lies more than 200 M from the baselines from which its territorial sea is measured.<sup>232</sup>

7.2 Article 76(1) to 76(3) of the 1982 Convention provide for the continental shelf of a coastal State to extend beyond 200 M on the basis of the natural prolongation of its landmass into the adjacent sea. Article 76(4) to 76(7) set limits on the extent to which States may claim such an entitlement beyond 200 M. Article 76(8) requires States to submit information to the Commission on the Limits of the Continental Shelf, which will then make recommendations on the establishment of the outer limits of the continental shelf, i.e., where national jurisdiction over the continental shelf ends and the international seabed area begins. As previously explained in Chapter 4, the CLCS has no power to delimit the continental shelf, or even to make recommendations on submissions regarding the outer limits where there is a dispute between opposite or adjacent States concerning their continental shelf boundaries. Article 76(10) specifically provides that:

The provisions of this article are without prejudice to the question of delimitation of the continental shelf between States with opposite or adjacent coasts.

7.3 Delimitation of the continental shelf beyond 200 M is, like delimitation of the shelf within that distance, not the function of the CLCS, but of ITLOS (or another international court or arbitral tribunal pursuant to a Special Agreement or under Part XV of the 1982 Convention). In carrying out this function, the court or tribunal must look to Article 83(1), which governs boundary delimitation in the continental shelf. Article 83(1) applies with equal

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<sup>232</sup> Government of Bangladesh, Statement of Claim and Notification under UNCLOS Article 287 and Annex VII, Article 1 (8 October 2009), at para. 24.

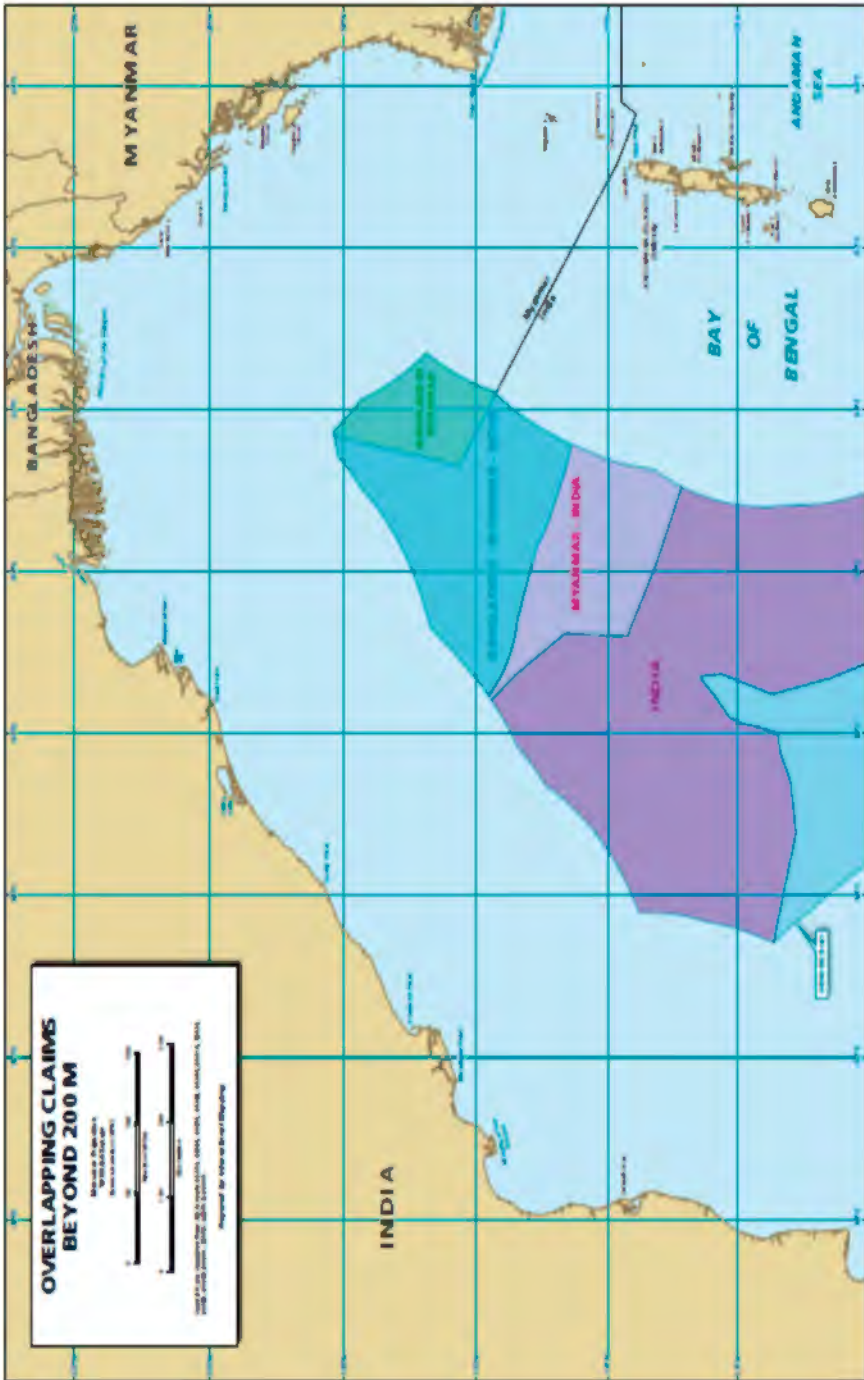
force to delimitation within and beyond 200 M. In either part of the continental shelf, it requires that the delimitation achieve “an equitable solution”.

7.4 As shown in **Figure 7.1** (following this page), the claims of Bangladesh and Myanmar in the outer continental shelf overlap with each other. In fact, all of the outer continental shelf claimed by Bangladesh is claimed by Myanmar as well. Part, but not all, of this area is also claimed by India. In the northeast portion (depicted in green), Bangladesh’s claim overlaps only with that of Myanmar (the “bilateral area”). In the larger portion to the south and west (depicted in blue), Bangladesh’s claim overlaps not only with Myanmar’s claim, but also with that of India (the “trilateral area”). Further to the south (coloured in light and dark pink), the outer continental shelf is not claimed by Bangladesh; these areas are claimed by Myanmar and India (light pink) or by India alone (dark pink), and are therefore beyond the scope of these proceedings.

7.5 This Chapter demonstrates that, as between Bangladesh and Myanmar, it is only Bangladesh that is entitled to the outer continental shelf beyond 200 M because only Bangladesh has an entitlement under the 1982 Convention; that is, only the landmass of Bangladesh has a natural prolongation extending to these areas of the outer shelf. Myanmar enjoys no entitlement in these areas because, as a matter of fact and law, its land territory has no natural prolongation into the Bay of Bengal beyond 200 M from its coastline. Accordingly, in the disputed areas of the outer continental shelf, the equitable solution required by Article 83(1) would result in a delimitation that leaves both the bilateral area and the trilateral area on Bangladesh’s side of the Bangladesh/Myanmar maritime boundary. This would recognize that the part of the shelf in the bilateral area is subject to the exercise of sovereign rights only by Bangladesh. In the trilateral area, Bangladesh’s entitlement would be subject to the claim of India, and would be finally determined in the separately pending Annex VII arbitration proceedings between Bangladesh and India.

#### **I. Entitlement to an Outer Continental Shelf Beyond 200 M**

7.6 Bangladesh submits that by virtue of the natural prolongation of its landmass, it is entitled to an outer continental shelf beyond 200 M in accordance with Article 76 of the 1982 Convention. Article 76(1) of the Convention provides that:



The continental shelf of a coastal state comprises the seabed and subsoil of the submarine 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 nautical miles 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.<sup>233</sup>

Article 76(3) further provides that:

The continental margin comprises *the submerged prolongation of the land mass of the coastal State*, and consists of the seabed and subsoil of the shelf, the slope and the rise. It does not include the deep ocean floor with its oceanic ridges or the subsoil thereof.<sup>234</sup>

7.7 It is clear from these provisions that *within* 200 M, a juridical continental shelf entitlement exists solely on the basis of distance from the shore, regardless of the geology or geomorphology of the seabed. As the International Court of Justice explained in *Libya v. Malta*,

where the continental margin does not extend as far as 200 miles from the shore, natural prolongation, which in spite of its physical origins has throughout its history become more and more a complex and juridical concept, is in part defined by distance from the shore, irrespective of the physical nature of the intervening sea-bed and subsoil.<sup>235</sup>

7.8 In respect of the outer shelf beyond 200 M, however, Article 76 employs the terminology of “natural prolongation of [the] land territory” and “submerged prolongation of the land mass” drawn from the judgment of the ICJ in the *North Sea Cases*.<sup>236</sup> Beyond 200 M, a continental shelf entitlement thus exists only insofar as it meets the criteria implied by the “natural prolongation” of the land territory. In the *North Sea Cases* the Court held that:

the rights of the coastal State in respect of the area of continental shelf that constitutes a natural prolongation of its land territory into and under the sea exist *ipso facto* and *ab initio*, by virtue of its sovereignty over the land, and as an extension of it in an exercise of sovereign rights for the purpose of exploring the seabed and exploiting its natural resources. In short, there is here an inherent right. In order to exercise it, no special legal process has to be

<sup>233</sup> Emphasis added.

<sup>234</sup> Emphasis added.

<sup>235</sup> *Continental Shelf (Libyan Arab Jamahiriya v. Malta)*, Judgment, I.C.J. Reports 1985, p. 13 (hereinafter “*Libya v. Malta*”), at para. 34.

<sup>236</sup> See *North Sea Continental Shelf (Federal Republic of Germany/Denmark; Federal Republic of Germany/Netherlands)*, Judgment, I.C.J. Reports 1969, p. 3 (hereinafter “*North Sea Cases*”), at paras. 19, 39-40, 43.

gone through, nor have any special legal acts to be performed. Its existence can be declared (and many States have done this) but does not need to be constituted. Furthermore, the right does not depend on its being exercised.<sup>237</sup>

Article 77(3) of the 1982 Convention reiterates that:

The rights of the coastal State over the continental shelf do not depend on occupation, effective or notional, or on any express proclamation.

7.9 Bangladesh submits, *first*, that it is entitled to the area of outer continental shelf which it claims in the present proceedings because the area is the “natural prolongation” of its own land territory beyond 200 M. It is entitled to claim sovereign rights over this area in accordance with the 1982 Convention as far as the outer limit of the shelf delineated in accordance with Article 76(5). *Second*, it submits that the geological and geomorphological characteristics of the shelf are such that Myanmar *cannot* demonstrate natural prolongation of its land territory beyond 200 M. Myanmar therefore has no viable claim of its own to an outer continental shelf. On that basis, the 1982 Convention requires that ITLOS delimit the areas of outer continental shelf claimed by both Bangladesh and Myanmar by deciding that only Bangladesh, and not Myanmar, has an entitlement to these areas, and by fixing the maritime boundary separating the continental shelves of the two Parties along the line that is exactly 200 M from Myanmar’s coastline. This line is depicted in **Figure 7.2** (following this page).

## II. The Concept of “Natural Prolongation”

7.10 Article 76 of the 1982 Convention does not define “natural prolongation”, but it is apparent from the drafting history that the term is drawn from the judgment of the ICJ in the *North Sea Cases*.<sup>238</sup> There the ICJ understood “natural prolongation” as follows:

More fundamental than the notion of proximity appears to be the principle — constantly relied upon by all the Parties — of the natural prolongation or continuation of the land territory or domain, or land sovereignty of the coastal State, into and under the high seas, via the bed of its territorial sea which is under the full sovereignty of that State. There are various ways of formulating this principle, but the underlying idea, namely of an extension of something already possessed, is the same, and it is this idea of extension which is, in the Court’s opinion, determinant. Submarine areas do not really appertain to the coastal State because — or not only because — they are near it. They are near

<sup>237</sup> *North Sea Cases* at para 19.

<sup>238</sup> M. Nordquist et al, eds., *United Nations Convention on the Law of the Sea 1982: A Commentary*, Vol. II (1993), at p. 846. MB, Vol. III, Annex 32.

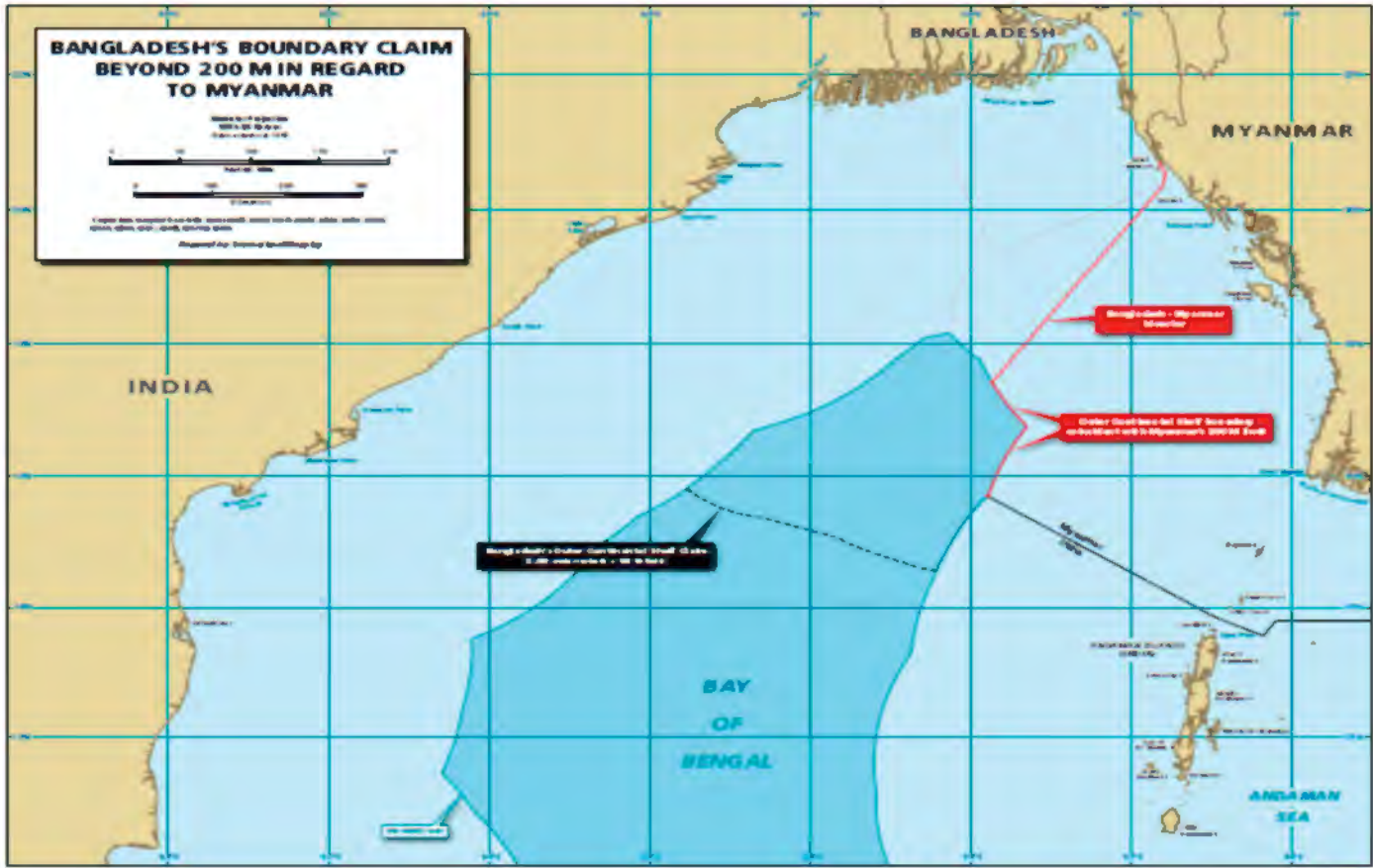


Fig. 02

it of course; but this would not suffice to confer title, any more than, according to a well-established principle of law recognized by both sides in the present case, mere proximity confers *per se* title to land territory. What confers the *ipso jure* title which international law attributes to the coastal State in respect of its continental shelf, is the fact that the submarine areas concerned may be deemed to be actually part of the territory over which the coastal State already has dominion, - in the sense that, although covered with water, they are a prolongation or continuation of that territory, an extension of it under the sea. From this it would follow that *whenever a given submarine area does not constitute a natural — or the most natural — extension of the land territory of a coastal State, even though that area may be closer to it than it is to the territory of any other State, it cannot be regarded as appertaining to that State; — or at least it cannot be so regarded in the face of a competing claim by a State of whose land territory the submarine area concerned is to be regarded as a natural extension, even if it is less close to it.*<sup>239</sup>

7.11 The concept of natural prolongation was further addressed in the *Tunisia/Libya* case, where the Court made reference to Article 76 of the 1982 Convention – then still the subject of ongoing negotiations. It rejected arguments based on “geology in its historical aspect”<sup>240</sup> and concluded instead that

The function of the Court is to make use of geology only so far as required for the application of international law. It is of the view that what must be taken into account in the delimitation of shelf areas are the physical circumstances as they are today; that just as it is the geographical configuration of the present-day coasts, so also it is the present-day sea-bed, which must be considered. It is the outcome, not the evolution in the long-distant past, which is of importance.<sup>241</sup>

7.12 The Court proceeded to examine arguments based on geography, geology and geomorphology. It appeared to treat all of these arguments as relevant to delimitation of the shelf but was unable to view them as decisive in the particular factual circumstances of that case, given the characteristics of the specific submarine features relied on by the parties. The Court concluded only that:

Those [features] relied on by Libya in support of its principal contention as to the geologically determined “northward thrust” do not seem to the Court to add sufficient weight to that contention to cause it to prevail over the rival geological contentions of Tunisia; nor do they amount independently to a means of identifying distinct natural prolongations, which would in fact be

<sup>239</sup> *North Sea Cases* at para. 43. Emphasis added.

<sup>240</sup> *Continental Shelf (Tunisia/ Libyan Arab Jamahiriya)*, Judgment, I.C.J. Reports 1982, p. 18 (hereinafter “*Tunisia/Libya*”), at para. 60.

<sup>241</sup> *Ibid.* at para. 61.



contrary to Libya's assertion of the unity of the Pelagian Block. As for the features relied on by Tunisia, the Court, while not accepting that the relative size and importance of these features can be reduced to such insubstantial proportions as counsel for Libya suggest, is unable to find that any of them involve such a marked disruption or discontinuance of the sea-bed as to constitute an indisputable indication of the limits of two separate continental shelves, or two separate natural prolongations.<sup>242</sup>

7.13 As shown below, unlike *Tunisia/Libya*, the technical and scientific evidence in the present case shows that there is “a marked disruption or discontinuance of the sea-bed as to constitute an indisputable indication of the limits of two separate continental shelves, or two separate natural prolongations”.

### III. The Bay of Bengal Outer Continental Shelf Is the Natural Prolongation of the Bangladesh Landmass

7.14 Taking into account the jurisprudence on natural prolongation considered in the previous section, and applying it to “the physical circumstances as they are today”, leaves no doubt that the juridical continental shelf that runs southwards from Bangladesh into the Bay of Bengal is a natural extension of its landmass, as required by Article 76.

7.15 As described in detail in Chapter 2, Bangladesh is underlain by thick sedimentary rock that extends offshore throughout the Bay of Bengal and forms the Bengal Fan, a massive undersea feature built by sediments derived from erosion of the Himalayas and transported by the Ganges-Brahmaputra river system. The Bengal Fan extends approximately 1,500 M from the edge of the physical shelf off the coast of Bangladesh and India to the area southeast of Sri Lanka.<sup>243</sup> At its widest, it spans nearly 500 M of seabed. Near the Bangladesh coast, the Fan has a maximum thickness of about 16.5 km, which gradually decreases to about one km south of the Equator, in the Indian Ocean beyond the limits of the Bay of Bengal.<sup>244</sup> Both the geology and geomorphology of the whole area prove conclusively that the sedimentary rock of the Bengal Fan extending south from the Bangladesh coast constitutes the natural prolongation of the landmass of Bangladesh in precisely the sense the ICJ articulated in the *North Sea Cases*.

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<sup>242</sup> *Ibid.* at para. 66.

<sup>243</sup> MB, at para 2.36.

<sup>244</sup> MB, at paras. 2.36 – 2.38.

7.16 In his expert report, Professor Curray describes the entire area extending from “the river-deposited sediments of Bangladesh, through the sediments of the Bengal Delta, to the [physical] continental shelf and slope deposits, and finally to the submarine Bengal Fan” as forming the “single, integrated” Bengal Depositional System.<sup>245</sup> He observes that these “different individual environments are related by common origin, common sediment source and inter-related processes of sediment transportation and deposition”.<sup>246</sup> As such, he concludes that “[t]hese elements represent an *offshore continuation of the geological processes and depositional environments of the land territory of Bangladesh into the Bay of Bengal*.”<sup>247</sup>

7.17 Further evidence of this fundamental continuity can be found in the unusual bathymetry of the Bay of Bengal, with water depths increasing uniformly down the north-south axis of the basin, and bathymetric contours running approximately east-west. As shown on **Figure 2.7** (in Volume II only), typical abyssal depths (usually deeper than 4000m elsewhere in the world) are not reached in the main part of the Bay of Bengal. Chapter 2 explained in detail<sup>248</sup> how sediments travelling north to south from the Himalayas through the Bengal Delta have built – and continue to build – the Bengal Fan. By contrast, the land territory of Myanmar has no historical or contemporary affinity with the Bengal Fan because “[t]he major rivers of Myanmar drain into the Andaman Sea behind the Andaman-Nicobar Ridge and islands”.<sup>249</sup>

7.18 Given the underlying geomorphology of the Bay of Bengal with its thick layers of sedimentary rock, the continental margin in the Bay continues well to the south of the outer shelf claimed by Bangladesh in these proceedings. Article 76(5) of the 1982 Convention places limits on the maximum extent of the shelf that can be claimed by coastal States.<sup>250</sup> As

<sup>245</sup> Joseph R. Curray, “The Bengal Depositional System: The Bengal Basin and the Bay of Bengal”, (23 June 2010) (hereinafter “Curray Expert Report (2010)”), at pp. 1-2. MB, Vol. IV, Annex 37.

<sup>246</sup> *Ibid.* at p. 6.

<sup>247</sup> *Ibid.*

<sup>248</sup> MB, at paras. 2.32 – 2.39.

<sup>249</sup> Curray Expert Report (2010), at p. 3. MB, Vol. IV, Annex 37.

<sup>250</sup> Annex II of the Final Act of the Third United Nations Conference on the Law of the Sea creates a special rule for certain States permitting them to establish the outer edge of the continental margin by reference to criteria behind those stated in Article 76(4). Bangladesh has not sought to rely on Annex II of the Final Act as Sri Lanka has done, but it reserves its rights to do so: see *Note Verbale* of the Permanent Mission of Bangladesh to the

shown earlier in **Figure 7.1** (following page 96), at its maximum extent defined by Article 76(5), Bangladesh's shelf runs into the adjoining area of shelf claimed by India and Myanmar. To delineate the outer limit of Bangladesh's continental shelf in accordance with Articles 76 is thus to delimit its maritime boundary with India, or with Myanmar and India, not its boundary with the international seabed area. For that reason, wherever the maritime boundary between Bangladesh and Myanmar is drawn, it can have no effect on the rights of the International Seabed Authority or of third States to exploit the international seabed area. Nor can it have any effect on whatever rights India may have to an outer continental shelf, since India will not be bound by any judgment that is rendered in this case, as explained in Chapter 4.

7.19 The outer limit of the continental shelf that can be claimed by a coastal State beyond 200 M is defined by Articles 76(4), (5), and (6) of the 1982 Convention. The limitations set by Article 76(6) are not relevant here, since there are no submarine ridges in the disputed area. Thus, only Articles 76(4) and (5) need be considered in the present dispute, together with Article 76(7), which determines the method to be used in delimiting the boundary in the outer shelf area beyond 200 M.

7.20 Article 76(4) provides:

(a) For the purposes of this Convention, the coastal State shall establish the outer edge of the continental margin wherever the margin extends beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, *by either*:

(i) a line delineated in accordance with paragraph 7 by reference to the outermost fixed points at each of which the thickness of sedimentary rocks is at least 1 per cent of the shortest distance from such point to the foot of the continental slope; or

(ii) a line delineated in accordance with paragraph 7 by reference to fixed points not more than 60 nautical miles from the foot of the continental slope.

(b) In the absence of evidence to the contrary, the foot of the continental slope shall be determined as the point of maximum change in the gradient at its base.

7.21 Article 76(4) is a complex provision, but its objective is simple: it allows States to choose between two alternative methods for defining the maximum extent of their entitlement in the outer continental shelf, according to whichever is further seaward. The two options can be summarised as follows:

Article 76(4)(a)(i): The entitlement extends to where the thickness of sedimentary rocks equals 1% of the distance from the foot of slope. (the “Gardiner formula”), or

Article 76(4)(a)(ii): The entitlement extends 60 miles beyond the foot of the slope (FOS) (the “Hedberg formula”).

7.22 In this case, the Gardiner formula results in a limit that is furthest seaward for Bangladesh. Accordingly, it is this formula that defines the extent of Bangladesh’s entitlement in the outer continental shelf. As can be seen in **Figure 7.3** (in Volume II only), the line resulting from the Hedberg formula is everywhere less than 200 M from Bangladesh’s coastline. By contrast, the Gardiner formula, also shown in **Figure 7.3**, produces an outer limit that extends well to the south not only beyond 200 M, but as far as some 370 M from the Bangladesh coast.

7.23 Article 76(5) provides:

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

7.24 Given that Bangladesh’s outer continental shelf is established by reference to the Gardiner formula, the relevance of Article 76(5) is that the fixed points which constitute the outer limits of the shelf according to that formula must *either* be located no more than 350 M from the baselines of the territorial sea, *or* they must be located no more than 100 M seaward of the 2,500 m isobath. Thus, Article 76(5) operates as a constraint on the outer limit established pursuant to Article 76(4). Taken together, Article 76(4) and 76(5) provide that a coastal State may claim an outer continental shelf based on either the Gardiner or Hedberg formula, whichever produces a line that is furthest seaward, but in no case may that line lie at a distance that is both more than 350 M from the shore *and* more than 100 M from the 2,500 m isobath. If the line lies outside *both* of these constraints, then the coastal State may claim an entitlement only to 350 M, or to 100 M beyond the 2,500 m isobath, whichever is furthest

seaward. As shown below, the Gardiner formula produces a line for Bangladesh that is beyond both of the limits set in Article 76(5). Accordingly, pursuant to that provision, Bangladesh's entitlement in the outer continental shelf extends to, but not beyond, either 350 M or 100 M from the 2,500 m isobath, whichever is furthest seaward. Drawn in accordance with Article 76(5) the 2,500 m + 100 M line is everywhere seaward of the 350 M limit; therefore this line represents the extent of Bangladesh's outer continental shelf entitlement.

7.25 Finally, Article 76(7) provides:

The coastal State shall delineate the outer limits of its continental shelf, where that shelf extends beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, by straight lines not exceeding 60 nautical miles in length, connecting fixed points, defined by coordinates of latitude and longitude.

The purpose of Article 76(7) is to indicate the precise methodology for delineating the boundary of the shelf in accordance with Article 76(5). This line is shown in **Figure 3.5** and is repeated, for ease of reference, as **Figure 7.4** (in Volume II only).

7.26 The conclusion which flows from the application of Article 76 to the geology and geomorphology of the Bay of Bengal is that Bangladesh is entitled to claim sovereign rights in accordance with the 1982 Convention over the "natural prolongation" of its landmass seawards from the 200 M limit as far as the outer limit of the shelf delineated in accordance with Article 76(4), 76(5) and 76(7). Insofar as its entitlement to this area of continental shelf overlaps with the claims of Myanmar, it is for ITLOS to determine the validity of the competing claims and delimit an equitable boundary taking into account the applicable law, and relevant scientific and factual circumstances. These include Bangladesh's "natural prolongation" throughout the Bay of Bengal and the absence of any natural prolongation on Myanmar's side.

#### **IV. Myanmar Has No "Natural Prolongation" into the Bay of Bengal**

7.27 Myanmar's claim to an outer continental shelf can only rest on "natural prolongation", as Article 76 requires. If Myanmar has no natural prolongation extending beyond 200 M from its coastline, then it has no valid title to a continental shelf beyond that

distance. The question then is whether Myanmar can demonstrate natural prolongation. Bangladesh submits that, given the geological and geomorphological evidence, it cannot.

7.28 Geologically speaking, all of the areas of the outer continental shelf claimed by Bangladesh are part of the Bengal Depositional System described in Chapter 2, and confirmed by Professor Curray in his expert report. The oceanic crust of the Indian plate, on which the entire Bengal Depositional System is located, slides under the adjacent Burma plate close to and along the coast of Myanmar. The Sunda Subduction Zone runs in a north/south direction marking the division between the two plates, just along the Andaman Islands and the Chittagong-Rakhine coast where the Indian plate is being forced beneath the Burma plate.<sup>251</sup> This subduction zone, which marks the collision between two different tectonic plates, represents the most fundamental geological discontinuity there is. It is manifestly “a marked disruption or discontinuance of the sea-bed” that serves as “an indisputable indication of the limits of two separate continental shelves, or two separate natural prolongations”. The subduction of the Indian plate has produced the accretionary prism that gave rise to the tightly-folded hills of Myanmar’s Rakhine coast, as well as a volcanic arc stretching from the Andaman and Nicobar Islands into Central Myanmar. To the southwest of the Andaman Islands, an oceanic trench has developed; farther north the subduction zone is partially obscured by sediments, but a deep ocean trench is revealed by seismic imaging.<sup>252</sup>

7.29 There are thus two distinct geological regions within the delimitation area: (1) the Bengal Depositional System comprising the land territory of Bangladesh, the physical shelf and slope in the Bay of Bengal, and the deep-sea Bengal Fan; and (2) the Burma plate consisting of the island chains, Myanmar mainland, and part of Chittagong division in extreme southeastern Bangladesh. The geology of these two regions is fundamentally different. While the Bengal Depositional System includes almost the entirety of the shelf and seabed beneath the Bay of Bengal, the Burma plate extends westward from the coastline of Myanmar for a maximum distance of 50 M before it ends. These geological differences have been discussed in Chapter 2, paras. 2.35-2.45, and depicted in **Figures 2.3** (following page 20), **2.5** (in Volume II only), and **2.6** (following page 24).

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<sup>251</sup> MB, at paras. 2.41 – 2.45.

<sup>252</sup> *Ibid.*

7.30 In summary, as Professor Curray explains,

Myanmar lies on a different tectonic plate, separated from the Bengal Depositional System by a subduction zone and accretionary prism plate edge. Myanmar is not a part of this [Bengal] depositional system, but is instead a part of a Myanmar-Andaman Sea Depositional System.<sup>253</sup>

7.31 The continental shelf in the Bay of Bengal is thus the natural geological prolongation of Bangladesh and, to a lesser extent, of India, but not of Myanmar. This means that there is no *physical* basis for Myanmar's claim to an outer shelf beyond 200 M and that Myanmar's *juridical* continental shelf can extend westwards no more than 200 M.

7.32 The geomorphology of the Bay of Bengal further confirms that Bangladesh has a broad and shallow physical shelf – commensurate with its continuity/prolongation southwards from its coastline. By contrast, Myanmar has a very narrow physical shelf due to the geological discontinuity caused by the separation between the Indian and Burma plates a relatively short westward distance off Myanmar's mainland coast. The evidence of geological discontinuity near Myanmar's coast on the eastern side of the Bay of Bengal is so strong that, notwithstanding the sediments partially masking the intervening trench, Myanmar has no valid claim to a natural prolongation beyond 200 M. Myanmar's natural prolongation only extends to the subduction zone which marks the boundary between the Indian and Burmese Plates – i.e., only about 50 M offshore. On that basis, it has no title to a shelf extending beyond 200 M from its baselines. In the terms used by the ICJ in the *North Sea Cases*, “a competing claim by a State of whose land territory the submarine area concerned is to be regarded as a natural extension, even if it is less close to it”, will prevail over the claims of a state where the submarine area “does not constitute a natural - or the most natural - extension of the land territory of [that] coastal State”.<sup>254</sup> That paragraph neatly summarises Bangladesh's position. The outer shelf areas to which it lays claim in these proceedings are the “most natural” extension of its land territory. They are not a natural extension of Myanmar's land territory at all.

7.33 Myanmar's submission to the CLCS, dated 16 December 2008, is premised on the opposite view. As its putative claim is located off the coast of its Rakhine State, Myanmar

<sup>253</sup> Curray Expert Report (2010), at p. 6. MB, Vol. IV, Annex 37.

<sup>254</sup> *North Sea Cases* at para. 43.

refers to its claimed shelf area as the “Rakhine Continental Shelf” or “Rakhine Continental Margin”. Myanmar contends that there exists a “fundamental prolongation between the land mass (accretionary complex) and the deep ocean floor (submarine fan)” based on “rock type and tectonic episodes within the last hundred million years or so”.<sup>255</sup> Myanmar acknowledges that for the last 25 million years, the Indian plate, on which the Bengal Fan and the land territories of Bangladesh and India are located, has been subducting under the Burmese Plate, and that, as a result, an “accretionary complex [has been] built up with the sediment scraped off from the subducting Indian Plate beneath the Burma plate”.<sup>256</sup> Myanmar also recognizes that marine sedimentary rocks that once formed part of the Bengal Fan located on the Indian plate have been accreted onto the Burma plate.

7.34 As explained in Chapter 2 and Professor Curray’s expert report, it is true that, as the Indian plate moves eastwards and is subducted beneath the Burma plate, sediments are being scraped off the surface of the former to form an accretionary prism just off the coast of Myanmar. However, far from extending the Myanmar landmass into the Bay of Bengal, the accretionary prism is in fact one of two features that *separates* Myanmar from the Bengal Depositional System.<sup>257</sup> The other feature is the Sunda Subduction Zone and its associated trench. Professor Curray describes the situation as follows:

The Sunda Trench lies offshore from the accretionary prism, the accumulation of sediment and rock scraped off the descending Indian plate, and lying on the edge of the overriding Burma plate. That is not a part of the Bengal Depositional System. The [Bengal Depositional] System lies offshore and to the west of the subduction zone, which is approximately the bottom of the trench.<sup>258</sup>

7.35 The contrast between the natural prolongation claims of Myanmar and Bangladesh in the Bay of Bengal is profound. Whereas the Rakhine coast of Myanmar is cut off from the centre of the Bay of Bengal by a “system of faults” located within 50 M from its shores,<sup>259</sup> the land territory of Bangladesh “dominates” the seabed<sup>260</sup> and subsoil of the Bay of Bengal

<sup>255</sup> Government of Myanmar, *Continental Shelf Submission of the Union of Myanmar: Executive Summary* (December 2008).

<sup>256</sup> *Ibid.*

<sup>257</sup> Curray Expert Report (2010), at p. 6. MB, Vol. IV, Annex 37.

<sup>258</sup> *Ibid.* at p. 3. MB, Vol. IV, Annex 37.

<sup>259</sup> *Ibid.* at pp. 3-4. MB, Vol. IV, Annex 37.

<sup>260</sup> *North Sea Cases* at para. 96.



well south of the Equator beyond the Bay of Bengal and into the southern Indian Ocean – a distance of more than 900 M.

7.36 As for the seabed and subsoil of the areas claimed by Bangladesh in the Bay of Bengal, the same Himalayan-derived sediments that have accumulated to thicknesses of up to 22 km in the nearshore and foreshore of Bangladesh have accumulated in the same sequence in the Bay of Bengal. It is clear on the evidence that Bangladesh has a natural prolongation of its land territory well beyond 200 M.

### Conclusions

7.37 If Myanmar has no entitlement to an outer continental shelf in accordance with Article 76 of the 1982 Convention, then it necessarily follows that Myanmar's existing claims to the bilateral area also claimed by Bangladesh and to the trilateral area also claimed by Bangladesh and India are invalid, since both areas, in their entirety, lie beyond 200 M from the coast of any of the three States. Because Bangladesh, by contrast, *can* demonstrate a legal and scientific basis for natural prolongation from its coast, it must be entitled to an outer continental shelf in accordance with the Convention. Any boundary between that shelf and Myanmar's must lie no further seawards from Myanmar's coast than the 200 M juridical shelf provided for in Article 76. There is then no overlapping shelf beyond 200 M from Myanmar, and Bangladesh is therefore entitled to its claimed outer continental shelf adjacent to Myanmar's 200 M limit as shown in **Figure 7.2** (following page 98).

7.38 It should be noted that there is a small wedge-shaped area immediately beyond the Bangladesh EEZ which is within 200 M of the mainland of Myanmar.<sup>261</sup> The extent of this wedge-shaped area is shown in **Figure 7.5** (following page 108). Thus, in theory, there is a small area of Bangladesh's continental shelf which is overlain by waters which Myanmar claims as its EEZ. This is not a one-off occurrence. It occurs wherever two conditions are met: (a) a maritime delimitation line which is not a strict equidistance line reaches a point 200 M from the nearer of the two coasts (and thus the limits of the EEZ attributable to that coast),

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<sup>261</sup> A somewhat larger area is within 200 M of Myanmar's Oyster Island but beyond 200 M from the nearest Bangladesh basepoints. However, as already demonstrated, Oyster Island is entitled to no weight in this delimitation. Moreover, it is in fact a rock which cannot sustain either human habitation or economic life of its own: it can therefore be ignored for present purposes. Cf. UNCLOS, Article 121(3).



and (b) there is an underlying physical continental shelf beyond that point. This was the situation, for example, in the *Gulf of Maine* case: the Chamber's Point D, the terminal point of its line, is 200 M from the nearest US coast but rather closer to the nearest point on the Canadian coast – as can be seen from the map attached to the judgment.<sup>262</sup> The Chamber was able to avoid dealing with the problem by stopping the delimitation line at the first 200 M limit, that of the United States.

7.39 This matter cannot be resolved by giving priority to the EEZ over the continental shelf. The proposition that even a sliver of EEZ of State B beyond the outer limit of State A's EEZ puts an end by operation of law to the entitlement that State A would otherwise have under Article 76 of UNCLOS to its outer continental shelf should not be entertained. Otherwise delimitation beyond 200 M would become a sort of back-to-front world as compared with delimitation within 200 M. For example, take a single maritime boundary which departs to some degree from equidistance in favour of State A. The result will be that the maritime boundary is closer to adjacent State B – but the result is nonetheless equitable as far as the parties are concerned. In such a case, if the “EEZ trumps” theory holds, in many coastal configurations State B will shelf-lock State A at the 200 M limit – by the very reason of an adjustment intended to be adverse to it: i.e., to achieve equity for State A. This is impossible to defend as a general proposition. Is it the case that an equitable line suddenly becomes inequitable as it crosses the invisible 200 M limit on a featureless sea? Of course not – the delimitation line, equitable at 199 M, must be presumed to be equitable at 201 M in the absence of some supervening feature. Here there is a supervening feature: it is Bangladesh's natural prolongation beyond both its own and Myanmar's 200 M EEZ limits, compared with the absence of a natural prolongation of Myanmar beyond 50 M from its coast. In such circumstances it is submitted that the single maritime boundary continues as such to the outermost of the two 200 M EEZ limits (that of Myanmar), and thence southwards along the 200 M line to the point where Myanmar's EEZ ends, and that it delimits all relevant and applicable maritime zones. As always with the continental shelf, the land dominates the sea, even at a distance of 200 M.

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<sup>262</sup> *Delimitation of the Maritime Boundary in the Gulf of Maine Area (Canada/United States of America)*, Judgment I.C.J. Reports 1984, p. 246 (hereinafter “*Gulf of Maine*”), at p. 346.

7.40 The matter of the wedge-shaped area also cannot be resolved by allocating water column rights over that area to Myanmar and continental shelf rights to Bangladesh. There is no textual basis in UNCLOS for doing so, unless Article 56(3) is to be so interpreted. The continental shelf was prior in time as a legal institution, and represents an inherent right of the coastal State by virtue of the principle of natural prolongation, as the ICJ held in 1969. Moreover, the great inconvenience of a solution which gives State A sovereign rights over the seabed and State B exclusive rights for resource purposes over the water column at exactly the same location may be noted. This is why international tribunals have sought at all costs to avoid the problem<sup>263</sup> and why differential attribution of zone and shelf has hardly ever been adopted in State practice.<sup>264</sup>

7.41 Bangladesh submits that in the circumstances of the present case, the maritime boundary between Bangladesh and Myanmar continues along the line dictated by the bisector method (i.e., 215°), until it reaches Myanmar's 200 M EEZ limit, and thence southwards along Myanmar's 200 M limit line until it reaches the end point of Myanmar's EEZ, as depicted in **Figure 7.5**.

7.42 Alternatively, assuming *arguendo* that Myanmar could substantiate its claims over any part of the outer continental shelf areas, Bangladesh reserves the right to request a delimitation of the disputed area, taking into account the relevant circumstances (including the geology and the geomorphology of the seabed, the geography of the coastline, and the principles of non-encroachment and proportionality) in order to achieve an equitable solution in accordance with Article 83(1) of the 1982 Convention. It has to be stressed, however, that this issue could only arise "for the delimitation of the respective continental shelves of two states bordering *the same* continental shelf",<sup>265</sup> which it is now Myanmar's burden to prove.

7.43 With that caveat in mind, and for all of the reasons set out in the present Chapter, Bangladesh submits:

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<sup>263</sup> *Delimitation of Maritime Boundary between Barbados and Trinidad and Tobago*, Award, 11 April 2006, reprinted in 27 RIAA 147.

<sup>264</sup> The example usually quoted is Australia/Papua New Guinea, Treaty concerning Sovereignty and Maritime Boundaries in the area between the two Countries, including the area known as Torres Strait, and Related Matters, 1429 UNTS 207 (18 December 1978), entered into force 15 February 1985. MB, Vol. III, Annex 5.

<sup>265</sup> *North Sea Cases* at para. 52 (quoting the report of the Committee of Experts to the ILC in the preparatory work of the 1958 Geneva Convention on the Continental Shelf) (emphasis added).

- That the outer continental shelf claimed by Bangladesh is the natural prolongation of Bangladesh's land territory by virtue of the uninterrupted seabed geology and geomorphology, including specifically the extensive sedimentary rock deposited by the Ganges-Brahmaputra river system.
- That by reason of the significant geological discontinuity which divides the Burma plate from the Indian plate, Myanmar is not entitled to a continental shelf in any of the areas beyond 200 M.
- That Bangladesh is entitled to claim sovereign rights over all of the bilateral shelf area beyond 200 M claimed by Bangladesh and Myanmar, as shown in **Figure 7.5**.
- That, vis-à-vis Myanmar only, Bangladesh is entitled to claim sovereign rights over the trilateral shelf area claimed by Bangladesh, Myanmar and India, as shown in **Figure 7.5**.

## SUBMISSIONS

On the basis of the facts and law sets forth in this Memorial, Bangladesh requests ITLOS to adjudge and declare that:

1. The maritime boundary between Bangladesh and Myanmar in the territorial sea shall be that line first agreed between them in 1974 and reaffirmed in 2008. The coordinates for each of the seven points comprising the delimitation are:

No.	Latitude	Longitude
1.	20° 42' 15.8" N	92° 22' 07.2" E
2.	20° 40' 00.5" N	92° 21' 5.2" E
3.	20° 38' 53.5" N	92° 22' 39.2" E
4.	20° 37' 23.5" N	92° 23' 57.2" E
5.	20° 35' 53.5" N	92° 25' 04.2" E
6.	20° 33' 40.5" N	92° 25' 49.2" E
7.	20° 22' 56.6" N	92° 24' 24.2" E

2. From Point 7, the maritime boundary between Bangladesh and Myanmar follows a line with a geodesic azimuth of 215° to the point located at 17° 25' 50.7" N - 90° 15' 49.0" E; and
3. From that point, the maritime boundary between Bangladesh and Myanmar follows the contours of the 200 M limit drawn from Myanmar's normal baselines to the point located at 15° 42' 54.1" N - 90° 13' 50.1" E.

(All points referenced are referred to WGS84.)

1 July 2010

A handwritten signature in black ink, appearing to read 'Khurshed Alam', written over a horizontal line.

Rear Admiral (Retd.) Md. Khurshed Alam

*Deputy Agent of the People's Republic of Bangladesh*

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