

ARBITRATION UNDER ANNEX VII OF THE UNITED NATIONS  
CONVENTION ON THE LAW OF THE SEA



**REPUBLIC OF THE PHILIPPINES**

**v.**

**PEOPLE'S REPUBLIC OF CHINA**

SUPPLEMENTAL DOCUMENTS OF THE PHILIPPINES

VOLUME II  
ANNEXES

19 NOVEMBER 2015

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## VOLUME II

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- Annex 699      K.E. Carpenter & L.M. Chou, *Environmental Consequences of Land Reclamation Activities on Various Reefs in the South China Sea* (14 Nov. 2015)

## **ACADEMIC ARTICLES, BOOK EXCERPTS AND REPORTS**

- Annex 700      Robert D. Hodgson, “Islands: Normal and Special Circumstances”, in *Law of the Sea: The Emerging Regime of the Oceans* (J. K. Gamble, Jr. & G. Pontecorvo eds., 1973)
- Annex 252(bis)      Jeanette Greenfield, *China’s Practice in the Law of the Sea* (1992)
- Annex 701      Intentionally Omitted

- Annex 702 Lee G. Cordner, “The Spratly Islands Dispute and the Law of the Sea”, *Ocean Development and International Law*, Vol. 25, No. 1 (1994)
- Annex 703 Zhinguo Gao, “The South China Sea: From Conflict to Cooperation?”, *Ocean Development and International Law*, Vol. 25, No. 3 (1994)
- Annex 704 Ji Guoxing, “The Diaoyudao (Senkaku) Disputes and Prospects for Settlement”, *Korean Journal of Defense Analysis*, Vol. 6, No. 2 (1994)
- Annex 705 Barry H. Dubner, “The Spratly ‘Rocks’ Dispute - A ‘Rockapelago’ Defies Norms of International Law”, *Temple International & Comparative Law Journal*, Vol. 9, No. 2 (1995)
- Annex 706 Clive Symmons, “Some Problems Relating to the Definition of ‘Insular Formations’ in International Law: Islands and Low-Tide Elevations”, *IBRU Maritime Briefing*, Vol. 1, No. 5 (1995)
- Annex 707 S.M. Garcia, “The Precautionary Approach to Fisheries and Its Implications for Fishery Research, Technology and Management: And Updated Review”, in *Precautionary Approach to Fisheries, Part 2: Scientific Papers* (1996), FAO Fisheries Technical Paper 350/2, available at <http://www.fao.org/docrep/003/W1238E/W1238E00.HTM> (accessed 10 Nov. 2015)
- Annex 708 S. Jennings and N. Poulmin, “Impacts of Fishing on Tropical Reef Ecosystems”, *Ambio: A Journal of the Human Environment*, Vol. 25, No. 1 (Feb. 1996)
- Annex 709 D. Bryant, et al., World Resources Institute, *Reefs at Risk: A Map-based Indicator of Threats to the World’s Coral Reefs* (1998)

### **Annex 668**

*Note Verbale* from the Permanent Mission of the People's Republic of China to the United Nations to the Secretary-General of the United Nations (21 May 2009), *reprinted in* UN Convention on the Law of the Sea, Meeting of States Parties, *Proposal for the inclusion of a supplementary item in the agenda of the nineteenth Meeting of States Parties*, U.N. Doc. SPLOS/196 (22 May 2009)





## Meeting of States Parties

Distr.: General  
22 May 2009

Original: Chinese and English

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### Nineteenth Meeting

New York, 22-26 June 2009

### **Proposal for the inclusion of a supplementary item in the agenda of the nineteenth Meeting of States Parties**

#### **Note verbale dated 21 May 2009 from the Permanent Mission of China to the United Nations addressed to the Secretary-General**

The Permanent Mission of the People's Republic of China to the United Nations presents its compliments to the Secretary-General of the United Nations and, with respect to the forthcoming nineteenth Meeting of States Parties to the United Nations Convention on the Law of the Sea, has the honour to propose, in accordance with rule 7 of the rules of procedure, the inclusion in the agenda of a supplementary item entitled "International Seabed Area as the common heritage of mankind and article 121 of the United Nations Convention on the Law of the Sea", and to request that the present note and attached explanatory note be circulated.



**Annex****Explanatory note**

1. By 13 May 2009, the Commission on the Limits of the Continental Shelf had received 50 submissions and 39 preliminary information from relevant coastal States concerning the outer limits of the continental shelf beyond 200 nautical miles, in accordance with the provisions of the United Nations Convention on the Law of the Sea and relevant decisions of the Meeting of States Parties to the Convention. The seabed and ocean floor and subsoil beyond the continental shelf of coastal States are the International Seabed Area as the common heritage of mankind. Therefore, to determine the outer limits of the extended continental shelf is at the same time to clarify the scope of the Area, which is of great importance to the overall interests of the international community in the Area.

2. Article 300 of the Convention expressly stipulates that “States Parties shall fulfil in good faith the obligations assumed under this Convention and shall exercise the rights, jurisdiction and freedom recognized in this Convention in a manner which would not constitute an abuse of right”. Therefore, in submissions concerning the outer limits of the continental shelf, the coastal States should comply fully with the Convention, taking into account the overall interests of the international community, and should not interpret the Convention in a biased way, nor put their own interests above the overall interests of the international community, nor encroach upon the Area as the common heritage of mankind.

3. In the submissions received by the Commission, most States have abided by the provisions of the Convention, and made serious efforts to safeguard the overall interests of the international community when claiming their rights. However, there is also some case in which the Convention is not abided by, for example, claims on the continental shelf within and beyond 200 nautical miles with an isolated rock in the ocean as base point. Recognition of such claim will set a precedent which may lead to encroachment upon the high seas and the Area on a larger scale. Therefore, the international community should express serious concerns on this issue.

4. In accordance with Article 121(3) of the Convention, rocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf. How to implement this provision relates to the interpretation and application of important principles of the Convention, and the overall interests of the international community, and is a key issue for the proper consideration of relevant submission concerning the outer limits of the continental shelf, and the safeguarding of the common heritage of mankind.

5. China holds that this meeting of the States Parties to the Convention should be taken as an opportunity to consider the issue of claiming extended continental shelf with a rock as base point and its legal implication under Article 121 of the Convention, and to discuss how to strengthen the protection of the Area as the common heritage of mankind. In this regard, some appropriate guidelines are needed for the work of the international bodies established under the Convention.

**Annex 669**

*Note Verbale* from the Department of Foreign Affairs of the Republic of Philippines to the Embassy of People's Republic of China in Manila, No. 12-1304 (14 May 2012)



REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF FOREIGN AFFAIRS  
MANILA

No. 12-1304

The Department of Foreign Affairs of the Republic of the Philippines presents its compliments to the Embassy of the People's Republic of China and has the honor to state its position on the "Announcement of the Enforcement of a Fishing Ban in the South China Sea 2012" declared by the People's Republic of China in the West Philippine Sea.

The Philippines expresses its grave concern over the announcement of the South China Sea Fisheries Administration Bureau of the Ministry of Agriculture of the People's Republic of China that the enforcement of the fishing ban includes the Bajo de Masinloc and its territorial sea, the adjacent waters and waters within its vicinity.

The Philippines reiterates its sovereignty over Bajo de Masinloc and its territorial sea and the waters within its vicinity and calls on China to respect the sovereignty of the Philippines over Bajo de Masinloc, its territorial sea, and the Exclusive Economic Zone around Bajo de Masinloc as covered by the distance of 200 nautical miles from the Archipelagic Baselines of the Philippines consistent with the 1982 United Nations Convention on the Law of the Sea.

Such unilateral ban by the People's Republic of China on Philippine territory and Exclusive Economic Zone does not have basis in international law and infringes on the legitimate rights of the Republic of the Philippines. The Department of Foreign Affairs, therefore, calls on the People's Republic of China to respect the Philippines' sovereignty and sovereign rights under international law including UNCLOS, over the Bajo de Masinloc and the Philippines' Exclusive Economic Zone, respectively.

The Department of Foreign Affairs also calls on China to abide by the 2002 ASEAN-China Declaration on the Conduct of Parties in the South China Sea (DOCS-SCS) and to refrain from acts that escalate tensions in the West Philippine Sea.

The Department of Foreign Affairs of the Republic of the Philippines avails itself of this opportunity to renew to the Embassy of the People's Republic of China the assurances of its highest consideration.

Manila, 14 May 2012

Embassy of the People's Republic of China  
MANILA





**Annex 670**

*Note Verbale* from the Department of Foreign Affairs of the Republic of the Philippines to the Embassy of the People's Republic of China in Manila, No. 14-1180 (4 Apr. 2014)



REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF FOREIGN AFFAIRS  
MANILA

No. 14-1180

The Department of Foreign Affairs of the Republic of the Philippines presents its compliments to the Embassy of the People's Republic of China, and has the honor to express its strong protest on China's land reclamation activities at Mabini (Johnson) Reef.

The Department notes China's earlier purported reason for its recent action of blocking the Philippine chartered vessels to Ayungin (Second Thomas) Shoal alleging that said vessels were "carrying construction materials."

In contrast, there is verified information that China has undertaken significant reclamation in Mabini Reef. It appears that such reclamation activities have been going on for sometime much prior to March 9, 2014, the date when China blocked Philippine chartered vessels for their routine rotation of personnel and the resupply of operations at Ayungin Shoal, which China alleged as an attempt to deliver construction materials to the area.

The foregoing indicates inconsistency in China's statements pertaining to Ayungin Shoal and Mabini Reef. This raises very serious concern.

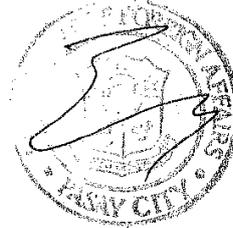
China is aware that the arbitral proceedings that the Philippines has initiated against China calls for, among others, the clarification of the character of Mabini Reef under Article 121 of the 1982 United Nations Convention on the Law of the Sea (UNCLOS). China's construction activities that are intended to effect change in the character, status and maritime entitlements of the said feature, therefore, prejudices the arbitration case and undermines the Arbitral Tribunal constituted under UNCLOS to hear and objectively decide on the case.

China's efforts also constitute a breach of the ASEAN-China Declaration on the Conduct of Parties in the South China Sea (DOC) to which signatory Parties undertook to exercise self-restraint in the conduct of activities that would complicate or escalate disputes and affect peace and stability.

In view of the foregoing, the Department strongly urges China to desist from its reclamation activities in Mabini Reef that are intended to alter the *status quo* and character of the feature; to respect international law, specifically UNCLOS and its dispute settlement mechanisms; and to exercise self-restraint in the conduct of activities pursuant to Paragraph 5 of the DOC.

The Department of Foreign Affairs of the Republic of the Philippines avails itself of this opportunity to renew to the Embassy of the People's Republic of China the assurances of its highest consideration.

Manila, 04 April 2014



The Embassy of the People's Republic of China

Manila, Philippines

### **Annex 671**

*Verbatim Text* of Response by Mr. Sun Xiangyang, Deputy Chief of Mission, Embassy of the People's Republic of China in Manila, to Philippine *Note Verbale* No. 14-1180 dated 04 April 2014 (11 Apr. 2014)



**VERBATIM TEXT OF THE CHINESE EMBASSY'S RESPONSE TO  
NOTE VERBALE NO. 14-1180 DATED 04 APRIL 2014**

Chinese DCM Sun Xiangyang, 11 April 2014

I have to reiterate that China has indisputable sovereignty over the Nansha Islands (Spratly Islands) and its surrounding adjacent waters. And I think we have expressed our position many times on this issue. And China will by no means allow Philippine side to seize the Ren'ai Reef in any form or will China allow any facilities in the Ren'ai Reef in defiance of the Declaration on the Conduct of Parties in the South China Sea.

We also make representations with the Philippine side for its organization of the reporting trip to the waters of China's Ren'ai Reef.

China demands that Philippines side stop all its provocative actions and the Philippine side will have to take the consequences caused by its actions.

I think our Vice Foreign Minister has met with your Ambassador in Beijing. Mr. Liu has expressed China's position on this in a very comprehensive manner. I think we understand each other's position.

On Mabini, this issue we have no information on this. We just relay this back to Beijing.



**Annex 672**

*Note Verbale* from the Department of Foreign Affairs of the Republic of the Philippines to the Embassy of the People's Republic of China in Manila, No. 14-2093 (6 June 2014)



REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF FOREIGN AFFAIRS  
MANILA

No. 14-2093

The Department of Foreign Affairs of the Republic of the Philippines presents its compliments to the Embassy of the People's Republic of China, and has the honor to strongly protest China's land reclamation activities at Chigua (McKenna/Hughes).

By Diplomatic Note No. 14-1180 dated 4 April 2014, the Department previously expressed its firm objection to China's land reclamation activities at Mabini (Johnson) Reef. The Department has recently received verified information that China is undertaking similar activities at Chigua Reef.

China is well aware that the arbitral proceedings that the Philippines has initiated against China calls for, among others, the clarification of the character of the aforementioned features under Article 121 of the 1982 United Nations Convention on the Law of the Sea (UNCLOS). China's reclamation activities are plainly intended to change the character, status and maritime entitlements of said features. They therefore prejudice the arbitration and undermine work of the Arbitral Tribunal constituted under UNCLOS to hear and objectively decide the case.

China's conduct also breaches the ASEAN-China Declaration on the Conduct of Parties in the South China Sea (DOC) in which signatory States undertook to exercise self-restraint in the conduct of activities that could complicate or escalate disputes, or affect peace and stability.

The Department strongly urges China to desist from its reclamation activities at Mabini and Chigua Reefs that are intended to alter the *status quo* and character of the feature; to respect international law, specifically UNCLOS and its dispute settlement mechanisms; and to exercise self-restraint in the conduct of activities pursuant to Paragraph 5 of the DOC.

The Department of Foreign Affairs of the Republic of the Philippines avails itself of this opportunity to renew to the Embassy of the People's Republic of China the assurances of its highest consideration.

Pasay City, 06 June 2014



The Embassy of the People's Republic of China  
Manila, Philippines

**Annex 673**

*Note Verbale* from the Department of Foreign Affairs of the Republic of the Philippines to the Embassy of the People's Republic of China in Manila, No. 14-2276 (23 June 2014)



JUN 23 2014

REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF FOREIGN AFFAIRS  
MANILA

No. 14-2276

The Department of Foreign Affairs of the Republic of the Philippines presents its compliments to the Embassy of the People's Republic of China, and has the honor to strongly protest China's land reclamation activities at Calderon (Cuarteron) Reef.

By Diplomatic Notes No. 14-1180 dated 04 April 2014 and No. 14-2093 dated 06 June 2014, the Department previously expressed its firm objection to China's land reclamation activities at Mabini (Johnson) Reef and Chigua (McKenna/Hughes) Reef, respectively. The Department has recently received verified information that China is undertaking similar activities at Calderon Reef.

China is well aware that the arbitral proceedings that the Philippines initiated against China calls for, among others, the clarification of the character of the aforementioned features under Article 121 of the 1982 United Nations Convention on the Law of the Sea (UNCLOS). China's reclamation activities are plainly intended to change the character, status and maritime entitlements of said features. They therefore prejudice the arbitration and undermine work of the Arbitral Tribunal constituted under UNCLOS to hear and objectively decide the case.

China's conduct also breaches the ASEAN-China Declaration on the Conduct of the Parties in the South China Sea (DOC) in which signatory States undertook to exercise self-restraint in the conduct of activities that could complicate or escalate disputes, or affect peace and stability.

The Department strongly urges China to desist from its reclamation activities at Mabini, Chigua and Calderon Reefs that are intended to alter the *status quo* and character of the features; to respect international law, specifically UNCLOS and its dispute settlement mechanisms; and to exercise self-restraint in the conduct of activities pursuant to Paragraph 5 of the DOC.

The Department of Foreign Affairs of the Republic of the Philippines avails itself of this opportunity to renew to the Embassy of the People's Republic of China the assurances of its highest consideration.

Pasay City, 23 June 2014

The Embassy of the People's Republic of China  
Manila, Philippines



**Annex 674**

*Note Verbale* from the Department of Foreign Affairs of the Republic of the Philippines to the Embassy of the People's Republic of China in Manila, No. 14-2307 (24 June 2014)



OT # 14-06-63

REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF FOREIGN AFFAIRS  
MANILA

No. 14-2307

The Department of Foreign Affairs of the Republic of the Philippines presents its compliments to the Embassy of the People's Republic of China, and has the honor to strongly protest China's land reclamation activities at Gaven Reef.

By Diplomatic Notes No. 14-1180 dated 04 April 2014, No. 14-2093 dated 06 June 2014, and No. 14-2276 dated 23 June 2014, the Department previously expressed its firm objection to China's land reclamation activities at Mabini (Johnson) Reef, Chigua (McKenna/Hughes) Reef, and Calderon (Cuarteron) Reef, respectively. The Department has recently received verified information that China is undertaking similar activities at Gaven Reef.

China is well aware that the arbitral proceedings that the Philippines has initiated against China calls for, among others, the clarification of the character of the aforementioned features under Article 121 of the 1982 United Nations Convention on the Law of the Sea (UNCLOS). China's reclamation activities are plainly intended to change the character, status and maritime entitlements of said features. They therefore prejudice the arbitration and undermine the work of the Arbitral Tribunal constituted under UNCLOS, to hear and objectively decide the case.

China's conduct also breaches the ASEAN-China Declaration on the Conduct of Parties in the South China Sea (DOC) in which signatory States undertook to exercise self-restraint in the conduct of activities that could complicate or escalate disputes, or affect peace and stability.

The Department strongly urges China to desist from its reclamation activities at Mabini, Chigua, Calderon and Gaven Reefs that are intended to alter the *status quo* and character of the features; to respect international law, specifically UNCLOS and its dispute settlement mechanisms; and to exercise self-restraint in the conduct of activities pursuant to Paragraph 5 of the DOC.

The Department of Foreign Affairs of the Republic of the Philippines avails itself of this opportunity to renew to the Embassy of the People's Republic of China the assurances of its highest consideration.

Pasay City, 24 June 2014

The Embassy of the People's Republic of China  
Manila, Philippines.



**Annex 675**

*Note Verbale* from the Embassy of the People's Republic of China in Manila to the Department of Foreign Affairs of the Republic of the Philippines, No. 14(PG)-195 (30 June 2014)



(Unofficial translation)

No. (14)PG- 195

The Embassy of the People's Republic of China in the Republic of the Philippines presents its compliments to the Department of Foreign Affairs of the Republic of the Philippines, and with reference to the latter's Note Verbale No. 14-2307 dated 24 June 2014, has the honor to state the followings:

By Note Verbale of the Chinese Embassy in the Philippines dated 18 June 2014, and Note Verbale of Ministry of Foreign Affairs of the People's Republic of China dated 25 June 2014, the Chinese side has expressed its solemn position. The Chinese side would like to reiterate that China has indisputable sovereignty over the Nansha Islands and their adjacent waters. Any action by China on relevant islands and reefs is within China's sovereignty. The Chinese side does not accept the groundless protest and accusation by the Philippine side.

The core of the South China Sea disputes between China and the Philippines is the territorial dispute over some of the islands and reefs of China's Nansha Islands, and the overlapping claims on maritime jurisdiction in some waters of the South China Sea. The Philippines' illegal occupation of some of the islands and reefs of China's Nansha Islands is the direct cause of the South China Sea dispute between China and the Philippines. China has been firmly opposing to such illegal occupation by the Philippine side. The Chinese side demands the Philippine side withdraw all its personnel and facilities from China's islands and reefs, tow away its illegally "grounded" vessel on China's Ren'ai Jiao, release the illegally detained Chinese fishermen and return their property immediately. The Chinese side hereby reiterates that China does not accept the Arbitration proceedings unilaterally filed by the Philippines side.

The Chinese side once again demands the Philippine side respect China's sovereignty, sovereign rights and jurisdiction, strictly abide by international laws and the spirit of the the Declaration on the Conduct of Parties in the South China Sea (DOC), and stop all actions that infringe upon China's sovereignty, sovereign rights and jurisdiction.

The Embassy of the People's Republic of China in the Republic of the Philippines avails itself of this opportunity to renew to the Department of Foreign Affairs the assurances of its highest consideration.

Makati, 30 June 2014

Department of Foreign Affairs  
Republic of the Philippines  
Pasay City, Manila



## 中 华 人 民 共 和 国 大 使 馆

(2014) 第 195 号

菲律宾共和国外交部：

中华人民共和国驻菲律宾共和国大使馆向菲律宾共和国外交部致意，并就菲律宾外交部 2014 年 6 月 24 日第 14-2307 号照会阐明如下立场：

中方已在中国驻菲律宾大使馆 6 月 18 日照会以及中国外交部 6 月 25 日照会中阐明了中方严正立场，在此再次重申，中国对南沙群岛及其附近海域拥有无可争辩的主权，在有关岛礁的作业行为完全是中国主权范围内的事。中方不接受菲方对中方提出的抗议和无理指责。

中国与菲律宾在南海争议的核心是南沙群岛部分岛礁领土争议，以及南海部分海域海洋管辖权主张重叠问题。造成争议的直接原因是菲方非法侵占中国南沙群岛的部分岛礁。中方一向坚决反对菲方的非法侵占，要求菲方从中国岛礁上撤走一切人员和设施，拖走在仁爱礁非法“坐滩”的船只；并立即释放非法扣留的中国渔民，归还人员财物；中国重申不接受菲方单方面提出的国际仲裁。

中方再次要求菲方尊重中国的主权、主权权利和管辖权，严格遵守国际法和《南海各方行为宣言》精神，停止一切侵犯中国领土主权和权利的行为。

顺致崇高敬意。

二〇一四年六月二十五日于马尼拉





**Annex 676**

*Note Verbale* from the Embassy of the People's Republic of China in Manila to the Department of Foreign Affairs of the Republic of the Philippines, No. 14(PG)-197 (4 July 2014)



(Unofficial translation)

No. (14)PG- 197

The Embassy of the People's Republic of China in the Republic of the Philippines presents its compliments to the Department of Foreign Affairs of the Republic of the Philippines, and with reference to the latter's Note Verbale No. 14-2276 dated 23 June 2014, has the honor to state the followings:

The Chinese side would like to reiterate that China has indisputable sovereignty over the Nansha Islands and their adjacent waters. Any action by China on relevant islands and reefs is within China's sovereignty. The Chinese side does not accept the groundless protest and accusation by the Philippine side.

The core of the South China Sea disputes between China and the Philippines is the territorial dispute over some of the islands and reefs of China's Nansha Islands, and the overlapping claims on maritime rights and interests in some waters of the South China Sea. The Philippines' illegal occupation of some of the islands and reefs of China's Nansha Islands is the direct cause of the South China Sea dispute between China and the Philippines. China has been firmly opposing to such illegal occupation by the Philippine side including Mahuan Dao, Feixin Dao, Zhongye Dao, Nanyue Dao, Beizi Dao, Xiyue Dao, Shuanghuang Shazhou and Siling Jiao. The Chinese side demands the Philippine side withdraw all its personnel and facilities from China's islands and reefs, and honor its commitment to tow away its illegally "grounded" vessel on China's Ren'ai Jiao, release the illegally detained Chinese fishermen and return their property immediately. The Chinese side hereby reiterates that China does not accept the Arbitration proceedings unilaterally filed by the Philippines side.

The Chinese side once again demands the Philippine side respect China's sovereignty, sovereign rights and jurisdiction,

strictly abide by international law and the spirit of the Declaration on the Conduct of Parties in the South China Sea (DOC), and stop all actions that infringe upon China's sovereignty, sovereign rights and jurisdiction.

The Embassy of the People's Republic of China in the Republic of the Philippines avails itself of this opportunity to renew to the Department of Foreign Affairs the assurances of its highest consideration.

Makati, 4 July 2014

Department of Foreign Affairs  
Republic of the Philippines  
Pasay City, Manila



## 中 华 人 民 共 和 国 大 使 馆

(2014) 第 197 号

菲律宾共和国外交部：

中华人民共和国驻菲律宾共和国大使馆向菲律宾共和国外交部致意，并就菲律宾外交部 2014 年 6 月 23 日第 14-2276 号照会阐明如下立场：

中方再次重申，中国对南沙群岛及其附近海域拥有无可争辩的主权，在有关岛礁的作业行为完全是中国主权范围内的事。中方不接受菲方提出的抗议和无理指责。

中国与菲律宾在南海争议的核心是南沙群岛部分岛礁领土争议，以及南海部分海域海洋权益主张重叠问题。造成争议的直接原因是菲方非法侵占中国南沙群岛的部分岛礁。中方一向坚决反对菲方的非法侵占，包括马欢岛、费信岛、中业岛、南钥岛、北子岛、西月岛、双黄沙洲和司令礁。中方要求菲方从中国岛礁上撤走一切人员和设施，尽快履行承诺，拖走在仁爱礁非法“坐滩”的船只，并立即释放非法扣留的中国渔民，归还人员财物。中国重申不接受菲方单方面提出的国际仲裁。

中方再次要求菲方尊重中国的主权、主权权利和管辖权，严格遵守国际法和《南海各方行为宣言》精神，停止一切侵犯中国领土主权和权利的行为。

顺致崇高敬意。



二〇一四年六月二十三日 马尼拉



**Annex 677**

*Note Verbale* from the Department of Foreign Affairs of the Republic of the Philippines to the Embassy of the People's Republic of China in Manila, No. 14-2889 (18 Aug. 2014)



AUG 20 2014

REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF FOREIGN AFFAIRS  
MANILA

No. 14-2889

The Department of Foreign Affairs of the Republic of the Philippines presents its compliments to the Embassy of the People's Republic of China, and has the honor to reiterate its strong protest against China's land reclamation activities at Mabini (Johnson), Chigua (McKenna/Hughes), Calderon (Cuarteron), and Gaven Reefs.

By Diplomatic Notes No. 14-1180 dated 4 April 2014, No. 14-2093 dated 06 June 2014, No. 14-2276 dated 23 June 2014, and No. 14-2307 dated 24 June 2014, the Philippines protested China's land reclamation activities at Mabini, Chigua, Calderon and Gaven Reefs, respectively.

Despite this, the Department has received information that reclamation activities in the aforementioned reefs still continue.

China is well aware that the arbitral proceedings that the Philippines has initiated against China calls for, among others, the clarification of the character of the aforementioned features under Article 121 of the 1982 United Nations Convention on the Law of the Sea (UNCLOS). China's reclamation activities are plainly intended to change the character, status and maritime entitlements of said features. They therefore prejudice the arbitration and undermine work of the Arbitral Tribunal constituted under UNCLOS to hear and objectively decide the case.

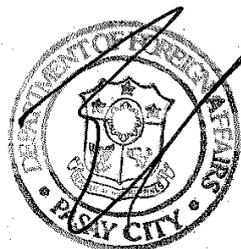
China's conduct also breaches the ASEAN-China Declaration on the Conduct of Parties in the South China Sea (DOC) in which signatory States undertook to exercise self-restraint in the conduct of activities that could complicate or escalate disputes, or affect peace and stability.

The Department reiterates its earlier call for China to desist from its reclamation activities at Mabini, Chigua, Calderon and Gaven Reefs that are intended to alter the *status quo* and character of the feature; to respect international law, specifically UNCLOS and its dispute settlement mechanisms; and to exercise self-restraint in the conduct of activities pursuant to Paragraph 5 of the DOC.

The Department of Foreign Affairs of the Republic of the Philippines avails itself of this opportunity to renew to the Embassy of the People's Republic of China the assurances of its highest consideration.

Rasay City, 18 August 2014

The Embassy of the People's Republic of China  
Manila, Philippines



**Annex 678**

*Note Verbale* from the Embassy of the People's Republic of China in Manila to the Department of Foreign Affairs of the Republic of the Philippines, No. 14(PG)-264 (2 Sept. 2014)



(Unofficial translation)

No. (14)PG- 264

The Embassy of the People's Republic of China in the Republic of the Philippines presents its compliments to the Department of Foreign Affairs of the Republic of the Philippines, and with reference to the latter's Note Verbale No. 14-2889 and 14-2890 dated 18 August 2014, has the honor to state the followings:

The Chinese side reiterates that China has indisputable sovereignty over the Nansha Islands and their adjacent waters. The actions including construction and utilization of the relevant islands, reefs, shoals, banks and sands of China are within China's sovereignty, sovereign rights and jurisdiction. The Chinese side does not accept the protests in Note Verbales by the Philippine side.

The core of the disputes between China and the Philippines in the South China Sea are the territorial disputes over some of the islands and reefs of China's Nansha Islands, and the overlapping claims on maritime jurisdiction in some waters of the South China Sea. The Philippines' illegal occupation of some of the islands and reefs of China's Nansha Islands including Mahuan Dao, Feixin Dao, Zhongye Dao, Nanyue Dao, Beizi Dao, Xiyue Dao, Shuanghuang Shazhou and Siling Jiao is the direct cause of the South China Sea disputes between China and the Philippines. Moreover, the Philippine side has constructed airports, harbors, schools and other facilities on some of the illegally occupied islands and reefs. At present, those facilities are being upgraded. The Philippine side also attempts to carry out construction work on the Ren'ai Reef via its illegally "grounded" vessel with the aim of constituting its new "occupation" of the Re'ai Reef. The above mentioned moves of the Philippine side has seriously violated the

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*Declaration on the Conduct of Parties in the South China Sea* and undermined the peace and stability of the region. China has always been firmly opposed to such provocations by the Philippine side.

The Chinese side requests the Philippine side to withdraw all its personnel and facilities from China's islands and reefs, tow away its illegally "grounded" vessel on Ren'ai Jiao, release the illegally detained Chinese fishermen and return their property immediately.

The Chinese side hereby reiterates that China does not accept the Arbitration proceedings unilaterally filed by the Philippine side. The Chinese side once again demands the Philippine side strictly abide by international laws and the *Declaration on the Conduct of Parties in the South China Sea* and stop all actions that infringe upon China's territorial sovereignty and rights.

The Embassy of the People's Republic of China in the Republic of the Philippines avails itself of this opportunity to renew to the Department of Foreign Affairs the assurances of its highest consideration.

Makati, 2 September 2014

Department of Foreign Affairs  
Republic of the Philippines  
Pasay City, Manila

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## 中 华 人 民 共 和 国 大 使 馆

(2014)第264号

菲律宾共和国外交部:

中华人民共和国驻菲律宾共和国大使馆向菲律宾共和国外交部致意,并就菲律宾外交部2014年8月18日第14-2889号、第14-2890号照会阐明如下立场:

中方再次重申,中国对南沙群岛及其附近海域拥有无可争辩的主权。在有关岛、礁、滩、沙的建设、使用等活动完全是中国主权、主权权利和管辖权范围内的事。中方不接受菲方来照提出的抗议。

中国与菲律宾在南海争议的核心是南沙群岛部分岛礁领土争议,以及南海部分海域海洋管辖权主张重叠问题。造成争议的直接原因是菲方非法侵占中国南沙群岛的部分岛礁,包括马欢岛、费信岛、中业岛、南钥岛、北子岛、西月岛、双黄沙洲和司令礁,并在部分岛礁上修建机场、码头、学校等设施,且目前有关设施还在不断升级改造中。菲方还企图利用在仁爱礁“坐滩”的故障军舰修建设施,实施新的占礁行为。菲方上述行动严重违背《南海各方行为宣言》,破坏南海地区的和平稳定。对菲方的挑衅行为,中方一向坚决反对。

中方要求菲方从中国岛礁上撤走一切人员和设施,尽快履行承诺,拖走在仁爱礁非法“坐滩”的船只,并立即释放非法扣留的中国渔民,归还人员财物。

中方重申不接受菲单方面提出的国际仲裁,并再次要求菲方严格遵守国际法和《南海各方行为宣言》,停止一切侵犯和挑衅中国领土主权和权利的行为。

顺致崇高敬意。

二〇一四年八月二十一日



于马尼拉



**Annex 679**

*Note Verbale* from the Department of Foreign Affairs of the Republic of the Philippines to the Embassy of the People's Republic of China in Manila, No. 14-3504 (10 Oct. 2014)



OCT 13 2014

REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF FOREIGN AFFAIRS  
MANILA

No. 14-3504

The Department of Foreign Affairs of the Republic of the Philippines presents its compliments to the Embassy of the People's Republic of China, and has the honor to strongly protest China's land reclamation activities at Kagitingan (Fiery Cross) Reef.

By Diplomatic Notes No. 14-1180 dated 04 April 2014, No. 14-2093 dated 06 June 2014, No. 14-2276 dated 23 June 2014, and No. 14-2307 dated 24 June 2014, the Department previously expressed its firm objection to China's land reclamation activities at Mabini (Johnson) Reef, Chigua (McKenna/Hughes), Calderon (Cuarteron) and Gaven Reefs, respectively. The Department has also received verified information that China is undertaking similar activities at Kagitingan Reef.

China is well aware that the arbitral proceedings that the Philippines has initiated against China calls for, among others, the clarification of the character of the aforementioned features under Article 121 of the 1982 United Nations Convention on the Law of the Sea (UNCLOS). China's reclamation activities are plainly intended to change the character, status and maritime entitlements of said features. They therefore prejudice the arbitration and undermine the work of the Arbitral Tribunal constituted under UNCLOS to hear and objectively decide the case.

China's conduct also breaches the ASEAN-China Declaration on the Conduct of Parties in the South China Sea (DOC) in which signatory States undertook to exercise self-restraint in the conduct of activities that could complicate or escalate disputes, or affect peace and stability.

The Department strongly urges China to desist from its reclamation activities at Kagitingan Reef that are intended to alter the *status quo* and character of the feature; to respect international law, specifically UNCLOS and its dispute settlement mechanisms; and to exercise self-restraint in the conduct of activities pursuant to Paragraph 5 of the DOC.

The Department of Foreign Affairs of the Republic of the Philippines avails itself of this opportunity to renew to the Embassy of the People's Republic of China the assurances of its highest consideration.

Pasay City, 10 October 2014



The Embassy of the People's Republic of China  
Manila, Philippines

**Annex 680**

*Note Verbale* from the Embassy of the People's Republic of China in Manila to the Department of Foreign Affairs of the Republic of the Philippines, No. 14(PG)-336 (28 Oct. 2014)



(Unofficial translation)

No. (14)PG- 336

The Embassy of the People's Republic of China in the Republic of the Philippines presents its compliments to the Department of Foreign Affairs of the Republic of the Philippines, and with reference to the latter's Note Verbale No. 14-3504 dated 10 October 2014, has the honor to state the followings:

The Chinese side reiterates that China has indisputable sovereignty over the Nansha Islands and their adjacent waters. The actions including construction and utilization of the relevant islands and reefs are totally within China's sovereignty, sovereign rights and jurisdiction. The Chinese side does not accept the protests in Note Verbale No. 14-3504 of the Philippine side.

The core of the disputes between China and the Philippines in the South China Sea is the territorial disputes over some of the islands and reefs and the overlapping claims on maritime rights and interests in some waters of China's Nansha Islands. The Philippines' illegal armed occupation of some of the islands and reefs of China's Nansha Islands including Mahuan Dao, Feixin Dao, Zhongye Dao, Nanyue Dao, Beizi Dao, Xiyue Dao, Shuanghuang Shazhou and Siling Jiao is the direct cause of the disputes between China and the Philippines in the South China Sea. Moreover, the Philippine side has constructed and kept on renovating airports, harbors, schools and other facilities on some of the illegally occupied islands and reefs. The Philippine side also attempts to carry out construction work on the Ren'ai Jiao by its illegally "grounded" broken-down vessel with the aim of constituting its new "occupation" of the Ren'ai Jiao. The above mentioned moves of the Philippine side has seriously violated the *Charter of the United Nations* and the basic norms governing

international relations, constituted a serious infringement upon China's territorial sovereignty, violated the *Declaration on the Conduct of Parties in the South China Sea* and undermined the peace and stability of the South China Sea region. China has always been firmly opposed to such provocations by the Philippine side. The Chinese side requests the Philippine side to withdraw all its personnel and facilities from China's islands and reefs, honor its commitment to tow away its illegally "grounded" vessel on the Ren'ai Jiao immediately.

The Chinese side hereby reiterates that China does not accept the Arbitration proceedings unilaterally filed by the Philippine side, and once again demands the Philippine side strictly abide by international laws and the *Declaration on the Conduct of Parties in the South China Sea* and stop all provocative actions that infringe upon China's territorial sovereignty and rights.

The Embassy of the People's Republic of China in the Republic of the Philippines avails itself of this opportunity to renew to the Department of Foreign Affairs of the Republic of the Philippines the assurances of its highest consideration.

Makati, 28 October 2014

Department of Foreign Affairs  
Republic of the Philippines  
Pasay City, Manila



## 中 华 人 民 共 和 国 大 使 馆

(2014)第336号

菲律宾共和国外交部:

中华人民共和国驻菲律宾共和国大使馆向菲律宾共和国外交部致意,并就菲律宾外交部2014年10月10日第14-3504号照会阐明如下立场:

中方再次重申,中国对南沙群岛及其附近海域拥有无可争辩的主权。中方在有关岛礁的建设、使用活动完全是中国主权、主权权利和管辖权范围内的事。中方不接受菲方来照提出的抗议。

中国与菲律宾在南海争议的核心是南沙群岛部分岛礁领土争议,以及南沙海域海洋权益主张重叠问题。造成争议的直接原因是菲方非法武力侵占中国南沙群岛的部分岛礁,包括马欢岛、费信岛、中业岛、南钥岛、北子岛、西月岛、双黄沙洲和司令礁,并在部分岛礁上修建和不断修缮机场、码头、学校等设施。菲方还企图利用在仁爱礁“坐滩”的故障军舰修建设施,实施新的占礁行为。菲方上述行为严重违反《联合国宪章》和国际关系基本准则,严重侵犯中国领土主权,违背《南海各方行为宣言》,破坏南海地区的和平稳定。对菲方的挑衅行为,中方一向坚决反对。中方要求菲方从中国岛礁上撤走一切人员和设施,尽快履行承诺,拖走在仁爱礁非法“坐滩”的船只。

中方重申不接受菲方单方面提出的国际仲裁,并再次要求菲方严格遵守国际法和《南海各方行为宣言》,停止一切侵犯和挑衅中国领土主权和权利的行为。

顺致崇高敬意。

二〇一四年



于马尼拉



**Annex 681**

*Note Verbale* from the Ministry of Foreign Affairs of the People's Republic of China to the Embassy of the Republic of the Philippines in Beijing, No. (2015) Bu Bian Zi No. 5 (20 Jan. 2015)



(Unofficial Embassy Translation)

**Ministry of Foreign Affairs of the People's Republic of China**

(2015) Bu Bian Zi No.5

The Embassy of the Republic of the Philippines

The Ministry of Foreign Affairs of the People's Republic of China presents its compliments to the Embassy of the Republic of the Philippines in the People's Republic of China, and with reference to the Notes No. 14-1180 dated 4 April, No. 14-2093 dated 6 June, No. 14-2276 dated 23 June, No. 14-2307 dated 24 June, No. 14-2889 dated 18 August and No. 14-3504 dated 10 October in 2014 from the Department of Foreign Affairs of the Republic of the Philippines and the Notes No. 0323-2014 dated 13 June, No. 0350-2014 dated 30 June, No. 0358-2014 dated 1 July and No. 0683-2014 dated 28 October in 2014 from the Embassy of the Philippines in China, has the honor to reiterate the position that the Chinese side has expounded in the Notes (2014) No. 112 dated 18 April, (2014) No. 195 dated 30 June, (2014) No. 197 dated 4 July, (2014) No. 264 dated 2 September, and (2014) No. 336 dated 28 October in 2014 from the Chinese Embassy in the Philippines and the Note (2014) Bu Bian Zi No. 47 dated 30 September 2014 from the Ministry of Foreign Affairs of the People's Republic of China, as follows:

China possesses indisputable sovereignty over Nansha Islands and its adjacent waters, and the construction, usage and other activities at the relevant islands, reefs, shoals and sands are actions completely within the scope of China's sovereignty, sovereign rights and jurisdiction. The Chinese side does not accept the Philippines' protest and groundless accusations.

(Unofficial Embassy Translation)

The core of the disputes on the South China Sea between China and the Philippines is the territorial dispute over parts of the islands and reefs of Nansha Islands and the overlapping claims for the maritime jurisdiction over part of the waters of the South China Sea. The direct causes of the disputes are the Philippines' illegal occupation of parts of the islands and reefs of China's Nansha Islands including Mahuan Dao (Nanshan Island), Feixin Dao (Flat Island), Zhongye Dao (Thitu Island), Nanyue Dao (Loaita Island), Beizi Dao (Northeast Cay), Xiyue Dao (West York Island), Shuanghuang Shazhou (Loaita Nan) and Siling Jiao (Commodore Reef), and the upgrading and re-construction of facilities such as the continuous building of stone markers claiming "sovereignty", airports, docks, stilt houses, schools and other facilities on some islands and reefs. Moreover, the Philippine side is also attempting to carry out new reef-occupation actions by taking advantage of the malfunctioning vessel "run aground" on Ren'ai Jiao (Second Thomas Shoal) to build new facilities. The Chinese side has been consistent in firmly opposing and strongly protesting the Philippines' provocations.

The Chinese side requests the Philippine side to move out all personnel and facilities from the Chinese islands and reefs, fulfill its commitments as soon as possible, tow away the vessel illegally "run aground" on Ren'ai Jiao, and immediately release the illegally detained Chinese fishermen and return their belongings. The Chinese side requests the Philippine side to respect China's sovereignty, sovereign rights and jurisdiction, strictly abide by international law and the "Declaration on the Conduct of Parties in the South China Sea", and stop all provocative actions that infringe upon China's territorial sovereignty and interests. The Chinese side hopes that the Philippine side go with China in the same direction and jointly safeguard and promote regional peace and stability in the South China Sea region.

(Unofficial Embassy Translation)

The Chinese side has the further honor to verify the following content:

The Chinese side did not receive Note No. 0502-2014 mentioned in the Note No. 0683-2014 dated 28 October 2014 from the Philippine side.

The Ministry of Foreign Affairs of the People's Republic of China avails itself of this opportunity to renew to the Embassy of the Republic of the Philippines in the People's Republic of China the assurances of its highest consideration.

Ministry of Foreign Affairs of  
The People's Republic of China  
20 January 2015, Beijing



## 中华人民共和国外交部

(2015)部边字第5号

菲律宾共和国驻华大使馆：

中华人民共和国外交部向菲律宾共和国驻华大使馆致意，并谨就菲律宾共和国外交部二〇一四年四月四日第14—1180号、六月六日第14—2093号、六月二十三日第14—2276号、六月二十四日第14—2307号、八月十八日第14—2889号、十月十日第14—3504号和菲律宾驻华大使馆二〇一四年六月十三日第0323—2014号、六月三十日第0350—2014号、七月一日第0358—2014号、十月二十八日第0683—2014号照会，重申中方在中国驻菲律宾大使馆四月十八日（2014）第112号、六月三十日（2014）第195号、七月四日（2014）第197号、九月二日（2014）第264号、十月二十八日（2014）第336号和中华人民共和国外交部二〇一四年九月三十日（2014）部边字第47号照会中所阐明的立场如下：

中国对南沙群岛及其附近海域拥有无可争辩的主权，

有关岛、礁、滩、沙的建设、使用等活动完全是中国主权、主权权利和管辖权范围内的事。中方不接受菲方提出的抗议和无理指责。

中菲南海争议的核心是南沙群岛部分岛礁领土争议，以及南海部分海域海洋管辖权主张重叠问题。造成争议的直接原因是菲方非法侵占中国南沙群岛的部分岛礁，包括马欢岛、费信岛、中业岛、南钥岛、北子岛、西月岛、双黄沙洲和司令礁，并在部分岛礁上不断修建“主权”碑、机场、码头、高脚屋、学校等设施并升级改造。此外，菲方还企图利用在仁爱礁“坐滩”的故障舰船修建设施，实施新的占礁行为。对菲方的挑衅行为，中方一向坚决反对和强烈抗议。

中方要求菲方从中国岛礁上撤走一切人员和设施，尽快履行承诺，拖走在仁爱礁非法“坐滩”的船只，并立即释放非法扣留的中国渔民，归还人员财物。中方要求菲方尊重中国的主权、主权权利和管辖权，严格遵守国际法和《南海各方行为宣言》，停止一切侵犯和挑衅中国领土主权和权益的行为。中方希望菲方与中方相向而行，共同维护和促进南海地区的和平稳定。

中方并谨确认以下内容：

中方未收到菲方二〇一四年十月二十八日第0683—  
2014号照会中所提到的第0502—2014号照会。

顺致崇高的敬意。



二〇一五年一月二十日于北京

**Annex 682**

*Note Verbale* from the Department of Foreign Affairs of the Republic of the Philippines to the Embassy of the People's Republic of China in Manila, No. 15-0359 (3 Feb. 2015)



FEB 04 2015

REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF FOREIGN AFFAIRS  
MANILA

No. 15-0359

The Department of Foreign Affairs of the Republic of the Philippines presents its compliments to the Embassy of the People's Republic of China, and has the honor to strongly protest China's land reclamation activities at Panganiban (Mischief) Reef.

By Diplomatic Notes No. 14-1180 dated 04 April 2014, No. 14-2093 dated 06 June 2014, No. 14-2276 dated 23 June 2014, No. 14-2307 dated 24 June 2014, and No. 14-3504 dated 10 October 2014, the Department previously expressed its firm objection to China's land reclamation activities at Mabini (Johnson), Chigua (McKenna/Hughes), Calderon (Cuarteron), Gaven, and Kagitingan (Fiery Cross) Reefs, respectively. By Diplomatic Note No. 14-2889 dated 18 August 2014, the Philippines reiterated its strong protest concerning the reclamation activities at Mabini, Chigua, Calderon and Gaven Reefs. The Department has recently received verified information that China is now undertaking similar activities at Panganiban Reef.

Panganiban Reef is a low-tide elevation located in the exclusive economic zone of the Philippines and on its continental shelf. Pursuant to Articles 60 and 80 of the 1982 United Nations Convention on the Law of the Sea (UNCLOS), the Philippines has the *exclusive* right to authorize the construction of artificial islands, installations or other structures in the vicinity of Panganiban Reef. China's reclamation activities constitute a flagrant violation of these rights.

China is well aware of the arbitral proceedings the Philippines has initiated against China. China's reclamation activities are plainly intended to disrupt the *status quo* by attempting to change the character, status and maritime entitlements of

Panganiban Reef, one of the features that have been identified in the arbitral proceedings. The reclamation activities therefore prejudice the arbitration and undermine work of the Arbitral Tribunal constituted under UNCLOS to hear and objectively decide the case.

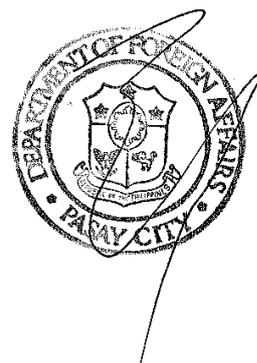
China's conduct also breaches the ASEAN-China Declaration on the Conduct of Parties in the South China Sea (DOC) in which signatory States undertook to exercise self-restraint in the conduct of activities that could complicate or escalate disputes, or affect peace and stability.

The Department strongly urges China to desist from its reclamation activities at Panganiban Reef; to respect international law, specifically UNCLOS and its dispute settlement mechanisms; and to exercise self-restraint in the conduct of activities pursuant to Paragraph 5 of the DOC.

The Department of Foreign Affairs of the Republic of the Philippines avails itself of this opportunity to renew to the Embassy of the People's Republic of China the assurances of its highest consideration.

Pasay City, 3 February 2015

The Embassy of the People's Republic of China  
Manila, Philippines



**Annex 683**

*Note Verbale* from the Embassy of the People's Republic of China in Manila to the Department of Foreign Affairs of the Republic of the Philippines, No. 15(PG)-053 (12 Feb. 2015)



(Unofficial translation)

No. (15)PG-053

The Embassy of the People's Republic of China in the Republic of the Philippines presents its compliments to the Department of Foreign Affairs of the Republic of the Philippines, and with reference to the latter's Note Verbale No. 15-0359 dated 3 February 2015, has the honor to reiterate the position that the Chinese side has expressed in its Note Verbale No. (14)PG-112 dated 18 April 2014, Note Verbale No. (14)PG-195 dated 30 June 2014, Note Verbale No. (14)PG-197 dated 4 July 2014, Note Verbale No. (14)PG-264 dated 2 September 2014, Note Verbale No. (14)PG-336 dated 28 October 2014, from the Embassy of the People's Republic of China to the Republic of the Philippines, and Note Verbale No. (2014)Bu Bian Zi-47 dated 30 September 2014, Note Verbale No. (2015)Bu Bian Zi-5 dated 20 January 2015 from Ministry of Foreign Affairs of the People's Republic of China as follows:

China has indisputable sovereignty over the Nansha Islands and its adjacent waters. The development of any facility in the Nansha Islands falls within the scope of China's sovereignty. The Chinese side does not accept and firmly opposes the so-called protests and unfounded accusation by the Philippine side.

The core of the disputes between China and the Philippines in the South China Sea are the territorial disputes over some maritime features of China's Nansha Islands, and the overlapping claims of maritime rights and interests over some maritime areas in the South China Sea. The Philippines' illegal occupation of some of the islands and reefs of China's Nansha Islands including Mahuan Dao(Nanshan Island), Feixin Dao(Flat Island), Zhongye Dao(Thi-Tu Island), Nanyue Dao(South I. of Horsbung), Beizi Dao(Northeast Cay), Xiyue Dao(West York Island), Shuanghuang Shazhou(Loaita Nan) and Siling Jiao(Commodore Reef) is the direct cause of the disputes between China and the Philippines in

the South China Sea. Moreover, the Philippine side has constructed and kept expanding facilities including airports, harbors, stilt houses and schools on some of the illegally occupied islands and reefs. The Philippine side also attempted to carry out construction work on the Ren'ai Jiao (Second Thomas Shoal) via its illegally "grounded" vessel with the aim of constituting its new "occupation" of the Ren'ai Jiao. China has all along firmly opposed to and strongly protested at such provocations by the Philippine side.

The Chinese side requests the Philippine side to withdraw all its personnel and facilities from China's islands and reefs, to honor its commitment without further delay by towing away its illegally "grounded" vessel on Ren'ai Jiao, to release the illegally detained Chinese fishermen and return their property immediately.

The Chinese side urges the Philippine side to respect China's territorial sovereignty, strictly abide by the Charter of the United Nations and the Declaration on the Conduct of Parties in the South China Sea (DOC), and stop all actions that infringe upon China's territorial sovereignty and interests. The Chinese side hopes the Philippines side to meet with China halfway and make its due effort to uphold peace and stability in the South China Sea region.

The Embassy of the People's Republic of China in the Republic of the Philippines avails itself of this opportunity to renew to the Department of Foreign Affairs the assurances of its highest consideration.

Makati, 12 February 2014

Department of Foreign Affairs  
Republic of the Philippines  
Pasay City, Manila



## 中 华 人 民 共 和 国 大 使 馆

(2015) 第 53 号

菲律宾共和国外交部:

中华人民共和国驻菲律宾共和国大使馆向菲律宾共和国外交部致意,并谨就菲律宾外交部第 15-0359 号照会,重申中方在中国驻菲律宾大使馆 2014 年 4 月 18 日(2014)第 112 号、6 月 30 日(2014)第 195 号、7 月 4 日(2014)第 197 号、9 月 2 日(2014)第 264 号、10 月 28 日(2014)第 336 号和中华人民共和国外交部 2014 年 9 月 30 日(2014)部边字第 47 号、2015 年 1 月 20 日(2015)部边字第 5 号照会中所阐明的立场如下:

中国对南沙群岛及其附近海域拥有无可争辩的主权,有关建设活动完全是中国主权范围内的事。中方不接受并坚决反对菲方抗议和无理指责。

中菲南海争议的核心是南沙群岛部分岛礁领土争议,以及南海部分海域海洋权益主张重叠问题。造成争议的直接原因是菲方非法侵占中国南沙群岛的部分岛礁,包括马欢岛、费信岛、中业岛、南钥岛、北子岛、西月岛、双黄沙洲和司令礁,并在部分岛礁上不断修建有关工程设施,包括机场、码头、高脚屋、学校等设施并升级改造。此外,菲方还企图利用在仁爱礁非法“坐滩”的船只修建设施,实施新的占礁行为。对菲方的挑衅行为,中方一向坚决反对和强烈抗议。

中方要求菲方从非法侵占的中国南沙群岛岛礁上撤走一切人员和设施,尽快履行承诺,拖走在仁爱礁非法“坐滩”的船只,并立即释放非法扣留的中国渔民并归还人员财物。

中方敦促菲方尊重中国的领土主权,严格遵守《联合国宪章》和《南海各方行为宣言》,停止一切侵犯中国领土主权和权益的行为。中方希望菲方与中方相向而行,为维护南海地区的和平稳定作出应有努力。

顺致崇高敬意。

二〇一五年一月二十一日 马尼拉





**Annex 684**

*Note Verbale* from the Department of Foreign Affairs of the Republic of the Philippines to the Embassy of the People's Republic of China in Manila, No. 15-0586 (16 Feb. 2015)



REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF FOREIGN AFFAIRS  
MANILA

No. **15-0586**

The Department of Foreign Affairs of the Republic of the Philippines presents its compliments to the Embassy of the People's Republic of China, and has the honor to strongly protest China's land reclamation activities at Zamora (Subi) Reef.

By Diplomatic Notes No. 14-1180 dated 04 April 2014, No. 14-2093 dated 06 June 2014, No. 14-2276 dated 23 June 2014, No. 14-2307 dated 24 June 2014, No. 14-3504 dated 10 October 2014, and No. 15-0359 dated 03 February 2015, the Department previously expressed its firm objection to China's land reclamation activities at Mabini (Johnson), Chigua (McKenna/Hughes), Calderon (Cuarteron), Gaven, Kagitingan (Fiery Cross), and Panganiban (Mischief) Reefs, respectively. By Diplomatic Note No. 14-2889 dated 18 August 2014, the Philippines reiterated its strong protest concerning the reclamation activities at Mabini, Chigua, Calderon and Gaven Reefs. The Department has recently received verified information that China is now undertaking similar activities at Zamora Reef.

Zamora Reef is a low-tide elevation located 232 nautical miles (M) from the nearest point on the Philippine island of Palawan and 502 M from the nearest point in China. As part of the seabed and subsoil, Zamora Reef is not capable of appropriation under well-established principles of international law. Moreover, pursuant to Article 13 of the 1982 United Nations Convention on the Law of the Sea (UNCLOS), it does not generate entitlements to a territorial sea, an exclusive economic zone (EEZ) or a continental shelf.

Zamora Reef is outside China's EEZ and forms part of the continental shelf beyond national jurisdiction. China therefore does not have the right under Article 60 or Article 80 to authorize the construction of artificial islands, installations or other

structures in the vicinity of Zamora Reef. China's reclamation activities constitute a flagrant violation of the abovementioned UNCLOS provisions.

China is well aware of the arbitral proceedings the Philippines has initiated against China. China's reclamation activities are plainly intended to disrupt the *status quo* by attempting to change the character, status and maritime entitlements of Zamora Reef, one of the features that have been identified in the arbitral proceedings. The reclamation activities therefore prejudice the arbitration and undermine work of the Arbitral Tribunal constituted under UNCLOS to hear and objectively decide the case.

China's conduct also breaches the ASEAN-China Declaration on the Conduct of Parties in the South China Sea (DOC) in which signatory States undertook to exercise self-restraint in the conduct of activities that could complicate or escalate disputes, or affect peace and stability.

The Department strongly urges China to desist from its reclamation activities at Zamora Reef; to respect international law, specifically UNCLOS and its dispute settlement mechanisms; and to exercise self-restraint in the conduct of activities pursuant to Paragraph 5 of the DOC.

The Department of Foreign Affairs of the Republic of the Philippines avails itself of this opportunity to renew to the Embassy of the People's Republic of China the assurances of its highest consideration.

Pasay City, 16 February 2015

The Embassy of the People's Republic of China  
Manila, Philippines



**Annex 685**

*Note Verbale* from the Embassy of the People's Republic of China in Manila to the Department of Foreign Affairs of the Republic of the Philippines, No. 15(PG)-068 (4 Mar. 2015)



(Unofficial translation)

No. (15)PG-068

The Embassy of the People's Republic of China in the Republic of the Philippines presents its compliments to the Department of Foreign Affairs of the Republic of the Philippines, and with reference to the latter's Note Verbale No. 15-0586 dated 16<sup>th</sup> February 2015, has the honor to reiterate the position that the Chinese side has expressed in its Note Verbale No. (14)PG-112 dated 18<sup>th</sup> April 2014, Note Verbale No. (14)PG-195 dated 30<sup>th</sup> June 2014, Note Verbale No. (14)PG-197 dated 4<sup>th</sup> July 2014, Note Verbale No. (14)PG-264 dated 2<sup>nd</sup> September 2014, Note Verbale No. (14)PG-336 dated 28<sup>th</sup> October 2014, Note Verbale No. (15)PG-053 dated 12<sup>th</sup> February 2015 from the Embassy of the People's Republic of China to the Republic of the Philippines, and Note Verbale No. (2014)Bu Bian Zi-47 dated 30<sup>th</sup> September 2014, Note Verbale No. (2015)Bu Bian Zi-5 dated 20<sup>th</sup> January 2015 from Ministry of Foreign Affairs of the People's Republic of China as follows:

China has indisputable sovereignty over the Nansha Islands and its adjacent waters. The development of any facility in the Nansha Islands falls within the scope of China's sovereignty. The Chinese side does not accept and firmly opposes the so-called protests and unfounded accusation by the Philippine side. The Chinese side would like to emphasize that, the position, already taken by the Chinese Government, of not accepting or participating in the arbitration is clear and consistent. It is supported by sufficient legal evidence, and will not change.

The crux of the disputes between China and the Philippines in the South China Sea is territorial disputes over some maritime features of China's Nansha Islands, and the overlapping claims of maritime rights and interests over some maritime areas in the South China Sea. The Philippines' illegal occupation of some of the maritime features of China's Nansha Islands including Mahuan Dao (Nanshan Island), Feixin Dao (Flat Island), Zhongye Dao

(Thi-Tu Island), Nanyue Dao (South I. of Horsbung), Beizi Dao (Northeast Cay), Xiyue Dao (West York Island), Shuanghuang Shazhou (Loaita Nan) and Siling Jiao (Commodore Reef) is the direct cause of the disputes between China and the Philippines in the South China Sea. Moreover, the Philippine side has constructed and kept expanding facilities including airports, harbors, stilt houses and schools on some of the illegally occupied islands and reefs. The Philippine side also attempted to carry out construction work on the Ren'ai Jiao (Second Thomas Reef) via its illegally "grounded" vessel with the aim of constituting its new "occupation" of the Ren'ai Jiao. China has all along firmly opposed to and strongly protested at such provocations by the Philippine side.

The Chinese side requests the Philippine side to withdraw all its personnel and facilities from China's islands and reefs, to honor its commitment without further delay by towing away its illegally "grounded" vessel on Ren'ai Jiao, to release the illegally detained Chinese fishermen and return their property immediately.

The Chinese side urges the Philippine side to respect China's territorial sovereignty and interests, strictly abide by the Charter of the United Nations and the Declaration on the Conduct of Parties in the South China Sea (DOC), and stop all actions that infringe upon China's territorial sovereignty and interests. The Chinese side hopes the Philippines to meet China halfway and make its due effort to uphold peace and stability in the South China Sea region.

The Embassy of the People's Republic of China in the Republic of the Philippines avails itself of this opportunity to renew to the Department of Foreign Affairs the assurances of its highest consideration.

Makati, 4<sup>th</sup> March 2015

Department of Foreign Affairs  
Republic of the Philippines  
Pasay City, Manila



## 中 华 人 民 共 和 国 大 使 馆

(2015)第68号

菲律宾共和国外交部:

中华人民共和国驻菲律宾共和国大使馆向菲律宾共和国外交部致意,并谨就菲律宾外交部第15-0586号照会,重申中方在中国驻菲律宾大使馆2014年4月18日(2014)第112号、6月30日(2014)第195号、7月4日(2014)第197号、9月2日(2014)第264号、10月28日(2014)第336号、2015年2月12日(2015)第53号和中华人民共和国外交部2014年9月30日(2014)部边字第47号、2015年1月20日(2015)部边字第5号照会中所阐明的立场如下:

中国对南沙群岛及其附近海域拥有无可争辩的主权,有关建设活动完全是中国主权范围内的事。中方不接受并坚决反对菲方抗议和无理指责。中方并强调,中国不接受、不参与菲律宾所提出的南海仲裁案,这是中国政府的既定立场,是一贯的、明确的,具有充分的国际法依据,不会改变。

中菲南海争议的核心是南沙群岛部分岛礁领土争议,以及南海部分海域海洋权益主张重叠问题。造成争议的直接原因是菲方非法侵占中国南沙群岛的部分岛礁,包括马欢岛、费信岛、中业岛、南钥岛、北子岛、西月岛、双黄沙洲和司令礁,并在部分岛礁上不断修建有关工程设施,包括机场、码头、高脚屋、学校等设施并升级改造。此外,菲方还企图利用在仁爱礁非法“坐滩”的船只修建设施,实施新的占礁行为。对菲方的挑衅行为,中方一向坚决反对和强烈抗议。

中方要求菲方从非法侵占的中国南沙群岛岛礁上撤走一切人员和设施,尽快履行承诺,拖走在仁爱礁非法“坐滩”的船只,并立即释放非法扣留的中国渔民并归还人员财物。

中方敦促菲方尊重中国的领土主权和权益,严格遵守《联合国宪章》和《南海各方行为宣言》,停止一切侵犯中国领土主权和权益的行为。中方希望菲方与中方相向而行,为维护南海地区的和平稳定作出应有努力。

顺致崇高敬意。

二〇一五年五月二十日 菲律宾马尼拉





**Annex 686**

*Note Verbale* from the Department of Boundary and Ocean Affairs, Ministry of Foreign Affairs of the People's Republic of China, to the Embassy of the Republic of the Philippines in Beijing, No. (2015) Bu Bian Zi No. 22 (30 Mar. 2015)



(Unofficial Embassy translation)

**Ministry of Foreign Affairs of the People's Republic of China**

(2015) Bu Bian Zi No.22

The Embassy of the Republic of the Philippines:

The Department of Boundary and Ocean Affairs of the Ministry of Foreign Affairs of the People's Republic of China presents its compliments to the Embassy of the Republic of the Philippines in the People's Republic of China, and with reference to Note No.0105-2015 from the Embassy of the Philippines in China, has the honor to reiterate the position that the Chinese side has already expounded in the Notes (2014) No. 112 dated 18 April, (2014) No. 195 dated 30 June, (2014) No. 197 dated 4 July, (2014) No. 264 dated 2 September, and (2014) No. 336 dated 28 October 2014, (2015) No. 053 dated 12 February 2015 and (2015) No.068 dated 4 March 2015 from the Chinese Embassy in the Philippines and the Notes (2014) Bu Bian Zi No. 47 dated 30 September 2014 and (2015) Bu Bian Zi No. 5 dated 20 January 2015 from the Ministry of Foreign Affairs of the People's Republic of China, as follows:

China possesses indisputable sovereignty over Nansha Islands and its adjacent waters, and the relevant construction activities are matters that completely fall within the scope of China's sovereignty. The Chinese side does not accept and firmly opposes the protest and groundless accusations of the Philippine side.

The Chinese side stresses that, on the issues of territorial sovereignty and maritime rights and interests, China will not accept any method or scheme imposed on China, and will not accept any unilateral dispute resolution measures that resort to third parties. China does not accept and will not participate in the South China Sea arbitration case filed by the Philippines. This is the Chinese government's established position, which is consistent and definite, possesses sufficient basis in international law, and will not change.

The core of the South China Sea dispute between China and the Philippines are the territorial dispute on parts of the islands and reefs of Nansha Islands, and the dispute on the overlapping maritime rights claims over parts of the waters of the South China Sea. The direct causes of the disputes are the illegal occupation by the Philippine side of parts of the islands and reefs of China's Nansha Islands, including the Mahuan Dao (Nanshan Island),

(Unofficial Embassy translation)

Feixin Dao (Flat Island), Zhongye Dao (Thitu Island), Nanyue Dao (Loaita Island), Beizi Dao (Northeast Cay), Xiyue Dao (West York Island), Shuanghuang Shazhou (Loaita Nan) and Siling Jiao (Commodore Reef), and the continuous building, upgrading and re-construction of facilities such as airports, seaports, stilt houses, and schools on some islands and reefs. Moreover, the Philippine side is also attempting to carry out the new reef occupation action by building facilities using the vessel that was "ran aground" on Ren'ai Reef (Second Thomas Shoal). The Chinese side has always been consistent in firmly opposing and strongly protesting the provocative actions of the Philippines.

The Chinese side requests the Philippine side to withdraw all personnel and facilities from the illegally occupied islands and reefs of China's Nansha Islands, fulfill its commitments as soon as possible, tow away the vessel illegally "run aground" on Ren'ai Reef, and immediately release the illegally detained Chinese fishermen and return the personnel's properties.

The Chinese side urges the Philippine side to respect China's territorial sovereignty and rights and interests, strictly abide by the "United Nations Charter" and other international laws, as well as the "Declaration on the Conduct of Parties in the South China Sea", and stop all actions that violate China's territorial sovereignty and rights and interests. The Chinese side hopes that the Philippine side would walk with China in the same direction, to exert due effort in order to safeguard the peace and stability in the South China Sea region.

The Department of Boundary and Ocean Affairs of the Ministry of Foreign Affairs of the People's Republic of China avails itself of this opportunity to renew to the Embassy of the Republic of the Philippines in the People's Republic of China the assurances of its highest consideration.

Department of Boundary and Ocean Affairs,  
Ministry of Foreign Affairs,  
People's Republic of China  
30 March 2015, Beijing



## 中华人民共和国外交部

(2015) 边字第22号

菲律宾共和国驻华大使馆：

中华人民共和国外交部边界与海洋事务司向菲律宾共和国驻华大使馆致意，并谨就菲律宾驻华大使馆第0105—2015号照会，重申中方在中国驻菲律宾大使馆二〇一四年四月十八日（2014）第112号、六月三十日（2014）第195号、七月四日（2014）第197号、九月二日（2014）第264号、十月二十八日（2014）第336号，二〇一五年二月十二日（2015）第053号、三月四日（2015）第068号和中华人民共和国外交部二〇一四年九月三十日（2014）部边字第47号、二〇一五年一月二十日（2015）部边字第5号照会中已阐明的立场如下：

中国对南沙群岛及其附近海域拥有无可争辩的主权，有关建设活动完全是中国主权范围内的事。中方不接受并坚决反对菲方抗议和无理指责。

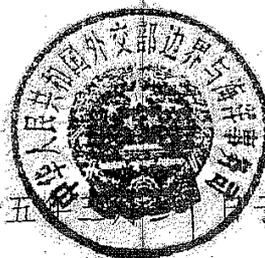
中方强调，中国在领土主权和海洋权益问题上不会接受强加于中国的任何方案，不会接受任何单方面诉诸第三方的争议解决办法。中国不接受、不参与菲律宾所提南海仲裁案，这是中国政府的既定立场，是一贯的、明确的，具有充分的国际法依据，不会改变。

中菲南海争议的核心是南沙群岛部分岛礁领土争议，以及南海部分海域海洋权益主张重叠争议。造成争议的直接原因是菲方非法侵占中国南沙群岛的部分岛礁，包括马欢岛、费信岛、中业岛、南钥岛、北子岛、西月岛、双黄沙洲和司令礁，并在部分岛礁上不断修建有关工程设施，包括机场、码头、高脚屋、学校等设施并升级改造。此外，菲方还企图利用在仁爱礁非法“坐滩”的船只修建设施，实施新的占礁行为。对菲方的挑衅行为，中方一向坚决反对和强烈抗议。

中方要求菲方从非法侵占的中国南沙群岛岛礁上撤走一切人员和设施，尽快履行承诺，拖走在仁爱礁非法“坐滩”的船只，立即释放非法扣留的中国渔民并归还人员财物。

中方敦促菲方尊重中国的领土主权和权益，严格遵守《联合国宪章》等国际法和《南海各方行为宣言》，停止一切侵犯中国领土主权和权益的行为。中方希望菲方与中方相向而行，为维护南海地区的和平稳定做出应有努力。

顺致崇高的敬意。



二〇一五年 于北京



**Annex 687**

*Note Verbale* from the Department of Boundary and Ocean Affairs, Ministry of Foreign Affairs of the People's Republic of China, to the Embassy of the Republic of the Philippines in Beijing, No. (2015) Bu Bian Zi No. 23 (30 Mar. 2015)



(Unofficial Embassy translation)

**Ministry of Foreign Affairs of the People's Republic of China**

(2015) Bu Bian Zi No.23

The Embassy of the Republic of the Philippines:

The Department of Boundary and Ocean Affairs of the Ministry of Foreign Affairs of the People's Republic of China presents its compliments to the Embassy of the Republic of the Philippines in the People's Republic of China, and with reference to Note No.0136-2015 from the Embassy of the Philippines in China, has the honor to reiterate the position that the Chinese side has already expounded in the Notes (2014) No. 112 dated 18 April, (2014) No. 195 dated 30 June, (2014) No. 197 dated 4 July, (2014) No. 264 dated 2 September, and (2014) No. 336 dated 28 October 2014, (2015) No. 053 dated 12 February 2015 and (2015) No.068 dated 4 March 2015 from the Chinese Embassy in the Philippines and the Notes (2014) Bu Bian Zi No. 47 dated 30 September 2014 and (2015) Bu Bian Zi No. 5 dated 20 January 2015 from the Ministry of Foreign Affairs of the People's Republic of China, as follows:

China possesses indisputable sovereignty over Nansha Islands and its adjacent waters, and the relevant construction activities are matters that completely fall within the scope of China's sovereignty. The Chinese side does not accept and firmly opposes the protest and groundless accusations of the Philippine side.

The Chinese side stresses that, on the issues of territorial sovereignty and maritime rights and interests, China will not accept any method or scheme imposed on China, and will not accept any unilateral dispute resolution measures that resort to third parties. China does not accept and will not participate in the South China Sea arbitration case filed by the Philippines. This is the Chinese government's established position, which is consistent and definite, possesses sufficient basis in international law, and will not change.

The core of the South China Sea dispute between China and the Philippines are the territorial dispute on parts of the islands and reefs of Nansha Islands, and the dispute on the overlapping maritime rights claims over parts of the waters of the South China Sea. The direct causes of the disputes are the illegal occupation by the Philippine side of parts of the islands and reefs of China's Nansha Islands, including the Mahuan Dao (Nanshan Island),

(Unofficial Embassy translation)

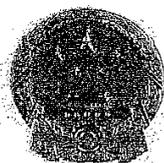
Feixin Dao (Flat Island), Zhongye Dao (Thitu Island), Nanyue Dao (Loaita Island), Beizi Dao (Northeast Cay), Xiyue Dao (West York Island), Shuanghuang Shazhou (Loaita Nan) and Siling Jiao (Commodore Reef), and the continuous building, upgrading and re-construction of facilities such as airports, seaports, stilt houses, and schools on some islands and reefs. Moreover, the Philippine side is also attempting to carry out the new reef occupation action by building facilities using the vessel that was "ran aground" on Ren'ai Reef (Second Thomas Shoal). The Chinese side has always been consistent in firmly opposing and strongly protesting the provocative actions of the Philippines.

The Chinese side requests the Philippine side to withdraw all personnel and facilities from the illegally occupied islands and reefs of China's Nansha Islands, fulfill its commitments as soon as possible, tow away the vessel illegally "ran aground" on Ren'ai Reef, and immediately release the illegally detained Chinese fishermen and return the personnel's properties.

The Chinese side urges the Philippine side to respect China's territorial sovereignty and rights and interests, strictly abide by the "United Nations Charter" and other international laws, as well as the "Declaration on the Conduct of Parties in the South China Sea", and stop all actions that violate China's territorial sovereignty and rights and interests. The Chinese side hopes that the Philippine side would walk with China in the same direction, to exert due effort in order to safeguard the peace and stability in the South China Sea region.

The Department of Boundary and Ocean Affairs of the Ministry of Foreign Affairs of the People's Republic of China avails itself of this opportunity to renew to the Embassy of the Republic of the Philippines in the People's Republic of China the assurances of its highest consideration.

Department of Boundary and Ocean Affairs,  
Ministry of Foreign Affairs,  
People's Republic of China  
30 March 2015, Beijing



## 中华人民共和国外交部

(2015)边字第23号

菲律宾共和国驻华大使馆：

中华人民共和国外交部边界与海洋事务司向菲律宾共和国驻华大使馆致意，并谨就菲律宾驻华大使馆第0136—2015号照会，重申中方在中国驻菲律宾大使馆二〇一四年四月十八日（2014）第112号、六月三十日（2014）第195号、七月四日（2014）第197号、九月二日（2014）第264号、十月二十八日（2014）第336号，二〇一五年二月十二日（2015）第053号、三月四日（2015）第068号和中华人民共和国外交部二〇一四年九月三十日（2014）部边字第47号、二〇一五年一月二十日（2015）部边字第5号照会中已阐明的立场如下：

中国对南沙群岛及其附近海域拥有无可争辩的主权，有关建设活动完全是中国主权范围内的事。中方不接受并坚决反对菲方抗议和无理指责。

中方强调，中国在领土主权和海洋权益问题上不会接受强加于中国的任何方案，不会接受任何单方面诉诸第三方的争议解决办法。中国不接受、不参与菲律宾所提南海仲裁案，这是中国政府的既定立场，是一贯的、明确的，具有充分的国际法依据，不会改变。

中菲南海争议的核心是南沙群岛部分岛礁领土争议，以及南海部分海域海洋权益主张重叠争议。造成争议的直接原因是菲方非法侵占中国南沙群岛的部分岛礁，包括马欢岛、费信岛、中业岛、南钥岛、北子岛、西月岛、双黄沙洲和司令礁，并在部分岛礁上不断修建有关工程设施，包括机场、码头、高脚屋、学校等设施并升级改造。此外，菲方还企图利用在仁爱礁非法“坐滩”的船只修建设施，实施新的占礁行为。对菲方的挑衅行为，中方一向坚决反对和强烈抗议。

中方要求菲方从非法侵占的中国南沙群岛岛礁上撤走一切人员和设施，尽快履行承诺，拖走在仁爱礁非法“坐滩”的船只，立即释放非法扣留的中国渔民并归还人员财物。

中方敦促菲方尊重中国的领土主权和权益，严格遵守《联合国宪章》等国际法和《南海各方行为宣言》，停止一切侵犯中国领土主权和权益的行为。中方希望菲方与中方相向而行，为维护南海地区的和平稳定做出应有努力。

顺致崇高的敬意。



二〇一五年三月三日 于北京



**Annex 688**

*Note Verbale* from the Department of Foreign Affairs of the Republic of Philippines to the Embassy of People's Republic of China in Manila, No. 12-1371 (21 May 2012)



REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF FOREIGN AFFAIRS  
MANILA

No. 12-1371

The Department of Foreign Affairs of the Republic of the Philippines presents its compliments to the Embassy of the People's Republic of China and with reference to the situation in Bajo de Masinloc, has the honor to express its grave concern over China's continuing actions that escalate tension in the area.

At around 1900 H of even date, the Department received a report from the Philippine Coast Guard there has been a significant increase of Chinese vessels in Bajo de Masinloc. In particular, there are now 5 Chinese Government vessels (CMS-71, CMS-84, FLEC-301, FLEC-303 and FLEC-310), and 16 Chinese fishing boats, 10 of which are inside the shoal while 6 are outside. In addition, there are 56 utility boats, 27 of which were inside and 29 were outside the shoal.

The Philippines protests the above actions of China as clear violations of Philippine sovereignty and jurisdiction over the Shoal and sovereign rights over the Philippine Exclusive Economic Zone (EEZ).

It is regrettable that these actions occurred at a time when China has been articulating for a de-escalation of tensions and while the two sides have been discussing how to defuse the situation in the area.

The above actions of China are clearly inconsistent with its statements and pronouncements.

The above actions of China are also in violation of the ASEAN-China Declaration of Conduct on the South China Sea specifically paragraph 5 which calls the Parties

*"...to exercise self-restraint in the conduct of activities that would complicate or escalate disputes and affect peace and stability including, among others, refraining from action of inhabiting on the presently uninhabited islands, reefs, shoals, cays, and other features and to handle their differences in a constructive manner."*

It is noteworthy that while the situation in Bajo de Masinloc started with the issue of Chinese fishermen poaching in the area; yet although these fishermen have already evaded arrests and prosecution for illegal fishing, nevertheless, Chinese Government vessels continue to ply the area in a much larger numbers now.

The recent actions of China are also in violation of the United Nations Charter, specifically Article 2.4, which provides the following:

"All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations.

Likewise, the increase in the number of China's vessels in the area imperils the marine biodiversity in the Shoal and threatens the marine ecosystem in the whole West Philippine Sea. The Philippines has documented the many instances where Chinese fishermen have unlawfully dredged the area and illegally harvested giant clams and corals.

The Philippines, therefore, demands that China's vessels immediately pull out from Bajo de Masinloc and the Philippines' EEZ and for China to refrain from taking further actions that exacerbate the situation in the West Philippine Sea.

The Department of Foreign Affairs of the Republic of the Philippines avails itself of this opportunity to renew to the Embassy of the People's Republic of China the assurances of its highest consideration.

Manila, 21 May 2012

Embassy of the People's Republic of China  
MANILA



**Annex 689**

*Note Verbale* from the Embassy of the People's Republic of China in Manila to the Department of Foreign Affairs of the Republic of the Philippines, No. 15(PG)-214 (28 June 2015)



(Unofficial translation)

No. (15)PG-214

The Embassy of the People's Republic of China in the Republic of the Philippines presents its compliments to the Department of Foreign Affairs of the Republic of the Philippines, and has the honor to state the following:

From 0952H to 0955H and 1106H to 1111H (Beijing Time) respectively on 19<sup>th</sup> June 2015, a C-130 aircraft of the Philippine Air Force approached Meiji Jiao and Yongshu Jiao of China's Nansha Islands, the nearest point is only several nautical miles away from the two Chinese maritime features. The above mentioned actions by the Philippine side have violated the relevant international law and international rules, severely infringed upon China's sovereignty and interests, and posed a severe threat to the security of the relevant maritime features of China. The act of the Philippine side also constituted a severe political and military provocation to the Chinese side, and was highly likely to cause miscalculation or even untoward maritime and aerial incidents. The Chinese side hereby expresses its strong protest against and firm opposition to those actions.

China has indisputable sovereignty over Nansha Islands and their adjacent waters, Meiji Jiao and Yongshu Jiao included. This position has adequate historical and legal basis. On the contrary, according to the "*Treaty of Peace between the United States of America and the Kingdom of Spain (Treaty of Paris, 1898)*" , "*Treaty between the Kingdom of Spain and the United States of America for Cession of Outlying Islands of the Philippines (Treaty of Washington, 1900)*" , "*Convention between the United States of America and Great Britain Delimiting the Boundary between the Philippine Archipelago and the State of North Borneo (1930)*" and a series of international treaties which determine the territorial area of the Republic of the Philippines,

China's Nansha Islands have never been included in the Philippine territory. The Chinese side strongly urges the Philippine side to earnestly respect China's sovereignty and interests, strictly abide by the international laws, the relevant international rule and the Declaration on the Conduct of Parties in the South China Sea (DOC), refrain from taking any risky and provocative actions, stop all actions that infringe upon China's sovereignty, security and interests, and take concrete actions to uphold peace and stability in the South China Sea region. The Chinese side will keep a close watch on the situation in relevant waters and airspace. If the Philippine side once again invades the waters and airspace of the Nansha Islands stationed by the Chinese side, the Chinese side will take all necessary defensive measures. The Philippine side must bear all the consequences arising therefrom.

The Embassy of the People's Republic of China in the Republic of the Philippines avails itself of this opportunity to renew to the Department of Foreign Affairs of the Republic of the Philippines the assurances of its highest consideration.

Makati City, 28<sup>th</sup> June 2015

Department of Foreign Affairs  
Republic of the Philippines  
Pasay City, Manila



## 中 华 人 民 共 和 国 大 使 馆

(2015) 第 214 号

菲律宾共和国外交部:

中华人民共和国驻菲律宾共和国大使馆向菲律宾共和国外交部致意, 并谨阐明立场如下:

2015年6月19日, 菲律宾空军一架C-130飞机分别于当日9时52分至55分、11时6分至11分(北京时间)抵近中国南沙群岛美济礁和永暑礁, 最近时距两礁只有几海里。菲方上述行为违反了相关国际法和国际规则, 严重侵犯中国主权和权益, 严重威胁中方有关岛礁安全, 是严重的政治和军事挑衅行为, 极易引发误判甚至发生海空意外事件。中方对此表示强烈抗议和坚决反对。

中国对包括美济礁和永暑礁在内的南沙群岛及其附近海域拥有无可争辩的主权, 并对此有充分的历史和法理依据。相反, 根据确定菲领土范围的1898年《美西巴黎条约》、1900年《美西华盛顿条约》和1930年《英美条约》等一系列国际条约, 菲领土范围从不包括中国南沙群岛。中方强烈敦促菲方切实尊重中国主权和权益, 严格遵守国际法和相关国际规则及《南海各方行为宣言》, 不得再采取任何冒险和挑衅行为, 立即停止一切损害中方主权、安全和权益的行为, 以实际行动维护地区和平稳定。中方将继续严密监视有关海空情况。如菲方再次侵犯中方南沙驻守

岛礁附近海空域，中方将采取一切必要防卫措施，由此引发的一切后果，完全由菲方承担。

顺致最崇高的敬意。

二〇一五年六月  
中华人民共和国  
驻菲律宾共和国  
大使馆  
马尼拉

A circular seal of the Chinese Embassy in the Philippines. The outer ring contains the text "REPUBLIC OF CHINA IN THE REPUBLIC OF THE PHILIPPINES" at the top and "EMBASSY OF THE PEOPLE'S REPUBLIC OF CHINA IN THE REPUBLIC OF THE PHILIPPINES" at the bottom, with a star on the right. The inner circle contains the Chinese text "中华人民共和国驻菲律宾共和国大使馆" (Embassy of the People's Republic of China in the Republic of the Philippines).

**Annex 690**

*Note Verbale* from the Department of Foreign Affairs of the Republic of the Philippines to the Embassy of the People's Republic of China in Manila, No. 15-2341 (16 June 2015)



JUN 17 2015

REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF FOREIGN AFFAIRS  
MANILA

No. 15-2341

The Department of Foreign Affairs of the Republic of the Philippines presents its compliments to the Embassy of the People's Republic of China, and has the honor to strongly protest China's imposition of a fishing ban in some parts of the South China Sea as well as its issuance of "Nansha Certification of Fishing Permit" to its fishing vessels.

The Department obtained information that China recently imposed fishing ban for the period 16 May 2015 to 01 August 2015 covering the sea areas in the South China Sea from north of the 12 degrees North latitude up to the borderline between Fujian and Guangdong provinces. The Department also received information that China has issued "Nansha Certification of Fishing Permit" to its fishing vessels.

The Department firmly protests the aforementioned actions. China's fishing ban covers maritime zones over which the Philippines exercises exclusive sovereign rights and jurisdiction. The Department likewise vehemently protests China's issuance of fishing permits that allow its fishing vessels to undertake fishing activities in the waters around the Kalayaan Island Group (KIG). This unilateral action infringes on the Philippine sovereignty, sovereign rights and jurisdiction over the KIG and its surrounding waters, and over the Philippine exclusive economic zone (EEZ).

China is well aware that one of the issues raised in the arbitral proceedings that the Philippines has initiated against China is the latter's interferences with the Philippines' rights and jurisdiction under UNCLOS. China's recent action infringes on these rights and jurisdiction. It therefore prejudices the arbitration and undermines the work of the Arbitral Tribunal constituted to hear and objectively decide the case.

China's action also constitutes a breach of the ASEAN-China Declaration on the Conduct of Parties in the South China Sea (DOC) in which signatory Parties undertook to exercise self-restraint in the conduct of activities that could complicate or escalate disputes, or affect peace and stability.

The Department therefore strongly urges China to desist from imposing the fishing ban and issuing fishing permits in areas where it does not possess sovereign rights or jurisdiction under UNCLOS.

The Department of Foreign Affairs of the Republic of the Philippines avails itself of this opportunity to renew to the Embassy of the People's Republic of China the assurances of its highest consideration.

Pasay City, 16 June 2015



The Embassy of the People's Republic of China  
Manila, Philippines

**Annex 691**

*Note Verbale* from the Department of Foreign Affairs of the Republic of the Philippines to the Embassy of the People's Republic of China in Manila, No. 15-3529 (25 Aug. 2015)



REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF FOREIGN AFFAIRS  
MANILA

No. 15-3529

The Department of Foreign Affairs of the Republic of the Philippines presents its compliments to the Embassy of the People's Republic of China and with reference to the Embassy's Note Verbale No. (15) PG-214 dated 28 June 2015, has the honor to state as follows:

The overflight of the Philippine aircraft, including C-130, near Panganiban (Mischief) and Kagitingan (Fiery Cross) Reefs is a lawful activity by the Philippines.

Panganiban Reef is a low-tide elevation as defined in Article 13 of the United Nations Convention on the Law of the Sea (UNCLOS). As such, no State may claim sovereignty of the air space over it. Nor may any State prohibit flight over it. Moreover, Panganiban Reef is located in the exclusive economic zone of the Philippines and on its continental shelf. Only the Philippines has the sovereign rights and jurisdiction in the area where Panganiban Reef is located.

Kagitingan Reef, for its part, is an integral part of the Philippines' Kalayaan Island Group (KIG).

Accordingly, the Philippines has long been undertaking overflight over Panganiban and Kagitingan Reefs and other features in the West Philippine Sea as part of its customary and usual maritime patrols, which are lawful activities under international law.

In this regard, the Department protests the audio challenges by the Chinese Navy to Philippine aircraft F-27 on 19 April 2015 near Zamora (Subi) Reef, on 7 May 2015 near Kagitingan Reef, on 8 May 2015 near Mabini (Johnson) Reef, and on 26

May 2015 near Panganiban and Kagitingan Reefs. The Department also protests the audio challenge issued by the Chinese Navy to Philippine aircraft C-130 on 19 June 2015 near Panganiban and Kagitingan Reefs.

The Department further strongly objects to the statements contained in the Embassy's Note Verbale No. (15) PG-214, particularly the statement "*If the Philippine side once again invades the waters and airspace of the Nansha Islands stationed by the Chinese side, the Chinese side will take all necessary defensive measures. The Philippine side must bear all the consequences arising therefrom.*"

The Department regards these challenges and statements as threats to use force to prevent the Philippines from undertaking its customary and usual maritime patrols. They violate Article 2 of the UN Charter as well as Article 301 of UNCLOS, which provides: "States Parties shall refrain from any threat or use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the principles of international law embodied in the UN Charter."

Accordingly, the Department strongly urges China to refrain from using threat or use of force in response to the lawful actions of the Philippine Government.

Finally, the Philippines reminds China that both States are obligated by the UN Charter and UNCLOS to settle all disputes peacefully, and that, to this end, the Philippines has initiated arbitration proceedings under Annex VII of UNCLOS, to obtain a peaceful, lawful and durable determination of the maritime entitlements in the West Philippine Sea/South China Sea. The Philippines calls upon China once again to actively participate in these peaceful dispute settlement proceedings. The Philippines notes in this connection that, as a corollary to its obligation to peacefully settle disputes by peaceful means under Article 297 of UNCLOS, China is obligated to refrain from acts that aggravate or extend the dispute. China's threats have the effect of aggravating or extending this dispute currently under consideration by the Annex VII arbitral tribunal.

The Department of Foreign Affairs of the Republic of the Philippines avails itself of this opportunity to renew to the Embassy of the People's Republic of China the assurances of its highest consideration.

Pasay City, 25 August 2015

The Embassy of the People's Republic of China  
Manila, Philippines





**Annex 692**

*Note Verbale* from the Embassy of the People's Republic of China in Manila to the Department of Foreign Affairs of the Republic of the Philippines, No. (2015)PG-329 (29 Sept. 2015)



(Unofficial translation)

No.(2015)PG-

The Embassy of the People's Republic of China in the Republic of the Philippines presents its compliments to the Department of Foreign Affairs of the Republic of the Philippines, and with reference to the latter's *Note Verbale* No. 15-3529 dated 25 August 2015, has the honor to reiterate China's position which has been stated in *Note Verbale* No.(15)PG-214 dated 28 June 2015 of the Embassy of the People's Republic of China in the Republic of the Philippines and *Note Verbale* No.(2015) Bu Bian Zi-46 dated 24 June 2015 of the Ministry of Foreign Affairs of the People's Republic of China and underline relevant position as follows:

China has indisputable sovereignty over the Nansha Islands and their adjacent waters, which has ample historical and legal basis. On the contrary, in accordance with a series of international treaties that determine the scope of the Philippines' territory such as the *Treaty of Peace Between the United States of America and the Kingdom of*

*Spain*(Treaty of Paris, 1898), *Treaty Between the Kingdom of Spain and the United States of America for Cession of Outlying Islands of the Philippines* (Treaty of Washington, 1900), *Convention Between the United States of America and Great Britain Delimiting the Boundary Between the Philippine Archipelago and the State of North Borneo*(1930 Convention), Nansha Islands have never been part of the Philippine territory.

Since the 1970s, the Philippines, in violation of the *Charter of the United Nations* and other international law and basic principles governing international relations, illegally occupied by force some of the islands and reefs of China's Nansha Islands successively, namely Mahuan Dao, Feixin Dao, Zhongye Dao, Nanyue Dao, Beizi Dao, Xiyue Dao, Shuanghuang Shazhou and Siling Jiao, on which the Philippines has kept on building and updating airports, harbors, stilt houses, schools and other facilities. The Philippines has also been attempting to make fresh "occupation" through its construction activities on the illegally "grounded" vessel on China's Ren'ai Jiao.

The Occurrence of relevant disputes in the South China Sea between China and the Philippines is wholly caused by the latter's longtime undertaking an expansion policy in the South China Sea, and flagrant

infringing upon China's sovereignty and legal rights and interests. China is strongly opposed to and will never recognize either the so-called "status quo" of the Philippines' illegal occupation of some of the islands and reefs of China's Nansha Islands, or the behavior by the Philippines itself of naming some islands and reefs of the China's Nansha Islands as a so-called "Kalayaan Islands Group". Having been all along firmly opposed to and keeping on making strong representations on the illegal construction activities and other provocative acts by the Philippines on China's islands and reefs illegally occupied by the Philippines, China demands once again the Philippines to withdraw all its personnel and facilities from the aforesaid islands and reefs of China's Nansha Islands, and honor its commitment without further delay by towing away its illegally "grounded" vessel on Ren' ai Jiao.

The *Charter of the United Nations* expressly forbids any state from encroaching on other States' territorial integrity. The *United Nations Convention on the Law of the Sea*(UNCLOS) also prescribes in its preamble that " The States Parties to this Convention recognize the desirability of establishing through this Convention, with due regard for the sovereignty of all States, a legal order for the seas and oceans..." Therefore, the UNCLOS shall not be used by the Philippines, under any circumstance, as an excuse to infringe upon or damage China's territorial

sovereignty. The Philippine military aircrafts' closing in on and overflying of some of the islands and reefs of China's Nansha Islands violate the international law including the *Charter of the United Nations* and basic principles governing international relations, severely infringe upon China's sovereignty and rights and interests, pose a grave threat to the security of China's relevant islands and reefs, constitute a serious political and military provocation, and are prone to cause miscalculation and even untoward maritime and aerial incidents. While firmly upholding sovereignty, rights and interests and maritime and aerial security in and over the relevant waters, China has exercised utmost self-restraints. China is hereby strongly opposed to, and does not accept absolutely the unfounded accusations and so-called "protests" by the Philippines.

China reiterates that, as a sovereign state and a State Party to the UNCLOS, China has the freedom and right to choose, on its own will, means and procedures of dispute settlement, which is honored by international law and deserves full respect. With regard to issues of territorial sovereignty and maritime rights and interests, China will not accept any imposed solution or any unilateral resort to a third-party settlement. China's clear and consistent position of neither accepting nor participating in the arbitration initiated by the Philippines is supported by sufficient legal evidence, and will not change.

China urges the Philippines to respect earnestly China's territorial sovereignty, rights and interests, abide by strictly the international law including the *Charter of the United Nations*, basic principles governing international relations, and the *Declaration on the Conduct of Parties in the South China Sea*(DOC), and stop any action infringing upon China's territorial sovereignty and rights and interests.

The Embassy of the People's Republic of China in the Republic of the Philippines avails itself of this opportunity to renew to the Department of Foreign Affairs of the Republic of the Philippines the assurances of its highest consideration.

Makati, 29 September, 2015

Department of Foreign Affairs  
Republic of the Philippines  
Pasay City



## 中 华 人 民 共 和 国 大 使 馆

(2015)329号

菲律宾共和国外交部:

中华人民共和国驻菲律宾共和国大使馆向菲律宾共和国外交部致意,并谨就菲律宾共和国外交部2015年8月25日第15-3529号照会,重申中方在中华人民共和国驻菲律宾共和国大使馆2015年6月28日(2015)第214号照会和中华人民共和国外交部2015年6月24日(2015)部边字第46号照会中已阐明的立场并强调有关立场如下:

中国对南沙群岛及其附近海域拥有无可争辩的主权,并对此有充分的历史和法理依据。相反,根据确定菲律宾领土范围的1898年《美西巴黎条约》、1900年《美西华盛顿条约》和1930年《英美条约》等一系列国际条约,菲领土范围从不包括中国南沙群岛。

自20世纪70年代以来,菲律宾违反《联合国宪章》等国际法和国际关系基本准则,陆续通过武力非法侵占了中国南沙群岛的部分岛礁,包括马欢岛、费信岛、中业岛、南钥岛、北子岛、西月岛、双黄沙洲和司令礁,并在上面不断修

建有关工程设施，包括机场、码头、高脚屋、学校等设施并升级改造。菲方还企图利用在仁爱礁非法“坐滩”的船只修建设施，实施新的占礁行为。正是菲方长期以来在南海采取扩张政策，悍然侵犯中国的主权和权益，制造了中菲南海有关争端。对中国南沙群岛部分岛礁被菲方非法侵占的所谓“现状”，以及菲方将中国南沙群岛部分岛礁私自命名为所谓“卡拉延群岛”，中方坚决反对，绝不承认。中方对菲方长期在非法侵占的中国岛礁上进行非法建设等挑衅行为一向坚决反对和强烈抗议，并再次要求菲方从非法侵占的中国南沙群岛岛礁上撤走一切人员和设施，尽快履行承诺，拖走在仁爱礁非法“坐滩”的船只。

《联合国宪章》明确要求任何国家不得侵害他国的领土完整。《联合国海洋法公约》在序言中也明确规定：“本公约缔约各国认识到有需要通过本公约，在妥为顾及所有国家主权的情形下，为海洋建立一种法律秩序……。”因此，《联合国海洋法公约》在任何情况下都不能成为菲律宾侵犯或损害中国领土主权的借口。菲律宾军机抵近和飞越中国南沙群岛部分岛礁的行为违反了包括《联合国宪章》在内的国际法和国际关系基本准则，严重侵犯中国主权和权益，严重威胁中方有关岛礁安全，是严重的政治和军事挑衅行为，极易引发误判甚至发生海空意外事件。中方在坚定维护国家主权和权益以及相关海域的海空安全的同时，保持了高度克制。对菲

方的无理指责和所谓抗议，中方坚决反对，绝不接受。

中方强调，作为主权国家和《联合国海洋法公约》的缔约国，中国拥有自主选择争端解决方式和程序的自由和权利，有关自由和权利受国际法保护并应得到尊重。中国在领土主权和海洋权益问题上不会接受强加于中国的任何方案，不会接受任何单方面诉诸第三方的争端解决办法。中国不接受、不参与菲律宾所提南海仲裁案，这是中国政府的既定立场，是一贯、明确的，具有充分的国际法依据，不会改变。

中方敦促菲方尊重中国的领土主权和权益，严格遵守《联合国宪章》等国际法、国际关系基本准则和《南海各方行为宣言》，停止一切侵犯中国领土主权和权益的行为。

中华人民共和国驻菲律宾共和国大使馆再次向菲律宾共和国外交部致以崇高敬意。

二〇一五年六月二十七日 于马尼拉



**Annex 693**

*Affidavit* of Mr. Richard Comandante (12 Nov. 2015)



PCA Case No. 2013-19

IN THE MATTER OF AN ARBITRATION

- before -

AN ARBITRAL TRIBUNAL CONSTITUTED UNDER ANNEX VII  
TO THE 1982 UNITED NATIONS CONVENTION  
ON THE LAW OF THE SEA

- between -

THE REPUBLIC OF THE PHILIPPINES

- and -

THE PEOPLE'S REPUBLIC OF CHINA

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**JUDICIAL AFFIDAVIT OF  
RICHARD Z. COMANDANTE**

**PURPOSE:** The testimony of the witness, Mr. Richard Z. Comandante, is offered to prove the allegations in the Amended Statement of Claim and in support of the prayers therein. In particular, the offer is made to prove that the Scarborough Shoal is a traditional fishing ground of Filipino fishermen. The testimony is also offered to prove other matters related thereto.

Ako si **RICHARD Z. COMANDANTE**, Filipino, 47 taong gulang, kasalukuyang naninirahan sa Masinloc, Zambales, Pilipinas, pagkatapos manumpa ng ayon sa batas ay malayang nagsasabi at sumasagot ng buong katotohanan sa mga tanong ni Senior State Solicitor Raymund I. Rigodon ng Tanggapan ng Taga-usig Panlahat, sa Candelaria, Zambales, Pilipinas (*I, **Richard Z. Comandante**, Filipino, 47 years old, with residence address at Masinloc, Zambales, Philippines, after having been duly sworn in accordance with law, hereby willingly and freely answer the questions propounded by Senior State Solicitor Raymund I. Rigodon of the Office of the Solicitor General, at Candelaria, Zambales, Philippines*):

Q1: Ano ang iyong kasalukuyang trabaho? (*What is your present occupation?*)

A1: Ako ay mangingisda. (*I am a fisherman.*)

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- Q2: Kailan ka nagsimula mangisda? (*When did you start working as a fisherman?*)
- A2: Nagsimula akong mangisda pagkatapos kong lumipat ng tirahan sa Masinloc, Zambales noong taong 1983. (*I started fishing after I transferred residence to Masinloc, Zambales in 1983.*)
- Q3: Saan ka ba dati nakatira? (*Where did you previously reside?*)
- A3: Sa Bislig, Surigao del Sur. (*At Bislig, Surigao del Sur.*)
- Q4: Bakit ka lumipat ng tirahan sa Masinloc, Zambales? (*Why did you transfer your residence to Masinloc, Zambales?*)
- A4: Dahil doon na naninirahan ang aking mga magulang mula noong dekada sitenta pa. (*Because my parents were staying there since the 1970s.*)
- Q5: Ano ang dahilan bakit sa Masinloc, Zambales nanirahan ang iyong mga magulang? (*Why did your parents stay in Masinloc, Zambales?*)
- A5: Dahil mas maganda ang kanilang kinikita doon mula sa huli ng isda. (*Because their earnings from fish catch were better there.*)
- Q6: Ano ba ang hanapbuhay ng iyong mga magulang noong nanirahan na sila sa Masinloc, Zambales? (*What was the occupation of your parents when they resided in Masinloc, Zambales?*)
- A6: Ang aking pong tatay ay nagtrabaho bilang mangingingisda, samantalang ang aking nanay ay bumibili ng isda sa Masinloc na kanyang binebenta naman sa Maynila. (*My father worked as a fisherman, while my mother bought fish in Masinloc which she sold in Manila.*)
- Q7: Gaano kadalas mangisda ang iyong tatay sa Masinloc? (*How often did your father fish in Masinloc?*)
- A7: Mga dalawang beses sa isang buwan siya nangingisda. Sumasama siya sa mga ibang mangingingisda lulan ng mga bangkang de motor. (*He fished twice a month. He went with other fishermen aboard motorized boats.*)
-

- Q8: Saan sila madalas nangingisda? (*Where did they usually fish?*)
- A8: Sila ay madalas mangisda sa Scarborough Shoal. (*They usually fished at Scarborough Shoal.*)
- Q9: Gaano sila katagal mangisda doon? (*How long did they stay there when fishing?*)
- A9: Mga 3 araw lang tapos uuwi na sila dahil maliit lang ang kayang ikarga ng bangka nila. (*They stayed for 3 days only because the cargo capacity of their boat was small.*)
- Q10: Gaano ba karaming isda ang pwdeng ilagay sa bangka nila? (*How many fish could be loaded in their boat?*)
- A10: Mga 500 kilo. (*About 500 kilos.*)
- Q11: Anong klaseng isda ang nahuhuli nila? (*What kind of fish did they catch?*)
- A11: Bonito, talakitok, tanguigue at iba pang isdang bato. (*Bonito, talakitok, tanguige and other species of fish found beneath or near rocks.*)
- Q12: Sa iyong pagkaalala, mga anong taon unang nakapunta ang iyong tatay sa Scarborough Shoal? (*From your recollection, when did your father first visited Scarborough Shoal?*)
- A12: Batay sa kinikwento sa amin ng aming tatay noong kami ay nasa Bislig, Surigao pa, sumasama siya sa ibang mangingingisda na pumupunta sa Scarborough Shoal noong mga bandang 1972. (*Based on what our father told us when we were still staying in Bislig, Surigao del Sur, he went to Scarborough Shoal around 1972.*)
- Q13: Nasabi mo kanina na bumibili ng isda ang inyong nanay sa Masinloc na kanyang binebenta sa Maynila, saan nahuhuli yung mga binibili niyang isda? (*You said earlier that your mother bought fish for resale, where did these fish come from?*)
- A13: Yung mga dinadala nya sa Maynila na isda, kagaya ng *tarian*, *tanguige*, *bonito*, *dorado*, ay sa Scarborough Shoal

nanggagaling. *(The fish that she brought to Manila, like tarian, tanguige, bonito, dorado, came from Scarborough Shoal.)*

Q14: Nasabi mo kanina na ikaw ay isang mangingisda, paano ka natutong mangisda? *(You said earlier that you are a fisherman, how did you learn to fish?)*

A14: Sumasama ako sa mga mangingisda pag sila ay pumapalaot. Tinitignan ko ang kanilang ginagawa at ginagaya ko, hanggang sa natuto ako. *(I went along with other fisherman when they go to sea. I observed and imitate what they were doing until I learned how to fish.)*

Q15: Pagkatapos mong matutong mangisda, saan ka madalas mangisda? *(After learning how to fish, where did you usually fish?)*

A15: Noong nagsisimula pa lang ako, madalas ay malapit sa baybayin lang ako pumapalaot. Pero noong mga taong 2006 to 2009 ay sa Scarborough Shoal na ako nangingisda. *(When I was just starting, I only fished near the shores. But from the years 2006 to 2009, I fished at Scarborough Shoal.)*

Q16: Bakit mo naisipan na sa Scarborough Shoal mangisda noong taong 2006 hanggang 2009? *(What made you decide to fish at Scarborough Shoal from 2006 to 2009?)*

A16: Mas malaki ang aking kita dahil marami kaming nahuhuli na isda doon. *(My income was much bigger because we caught a lot of fish there.)*

Q17: Magkano ba ang kinikita mo pag nangingisda kayo sa Scarborough Shoal? *(How much did you earn from fishing at Scarborough Shoal?)*

A17: Kumikita ako ng P7,000 pesos kada byahe. *(I earned P7,000 for every trip.)*

Q18: Anong klase ng isda ang nahuhuli ninyo doon? *(What kind of fish do you usually catch there?)*

A18: Madalas kaming nakakahuli ng talakitok, tanguigue, bonito, bonjing at iba pang isdang bato. *(We often caught talakitok,*

*tanguigue, bonito, bonjing and other species of fish found under or near rocks.)*

Q19: Nung nangingisda ka sa Scarborough Shoal, magisa ka lang ba o mayroon kang kasama? (*When you were fishing at Scarborough Shoal, were you alone or with companions?*)

A19: May mga kasama ako. Mga 5 hanggang 6 kami. (*I have companions. There were about 5 to 6 of us.*)

Q20: Ano ang ginagamit ninyo na sasakyan pag pumupunta kayo sa Scarborough Shoal para mangisda? (*What kind of vessel did you use when you go to Scarborough Shoal to fish?*)

A20: Isang malaking bangka ang dala namin pag pumupunta kami sa Scarborough Shoal. (*We used a large boat in going to Scarborough Shoal.*)

Q21: Yung malaking bangka, saan ito gawa? Ano ang haba at lapad ng bangka? (*The large boat, what was it made of? What was the length and width of the boat?*)

A21: Yung bangka ay gawa sa kahoy –lawaan at plywood. May haba na 40 metros at lapad na 6 metros. (*The boat was made of wood –“lawan” [a native wood] and plywood. It was 40 meters long and 6 meters wide.*)

Q22: May katig ba ang bangka nyo? Kung may katig, anong materyales gawa ang katig? (*Did the boat have an outrigger? If yes, what was the outrigger made of?*)

A22: Oo, mayroon siyang katig na gawa sa “bayog,” isang uri ng makapal na kawayan. (*Yes, it has an outrigger made of “bayog”, a thick type of bamboo.*)

Q23: Ano ang nagpapatakbo sa malaking bangka? (*What powered the large boat?*)

A23: Ito ay pinatakbo ng 6d14 na Isuzu makina? (*The boat was powered by a 6d14 Isuzu engine.*)

*Judicial Affidavit of Richard Z. Comandante*

- Q24: Maliban sa mga bangka, saan ba ginagamit ang makina na nasabi ninyo? (*Aside from being used in boats, what is the said engine being used for?*)
- A24: Ito ay ginagamit na makina ng mga maliit na Elf truck. (*It is used as an engine for small Elf trucks.*)
- Q25: Kayo ba ang nag may-ari ng bangka na sinasabi nyo? (*Did you own the fishing boat that you mentioned?*)
- A25: Hindi. (*No.*)
- Q26: Ano ang relasyon nyo sa may-ari ng mga bangka? (*What was your relationship with the boat owner?*)
- A26: Ako ay nagtrabaho sa may-ari. Kapitalit sa tulong sa pangangisda, binibigyan ako ng porsyento sa kita sa mga nahuling isda. (*I worked for the owner. In exchange for my help in catching fishing, I get a certain percentage of the sale of the fish catch.*)
- Q27: Saan kayo nanggagaling pag pumupunta kayo sa Scarborough Shoal? (*Where do you depart in going to Scarborough Shoal?*)
- A27: Sa Masinloc kami nanggagaling. (*We depart from Masinloc.*)
- Q28: Ilang oras ang byahe ninyo bago kayo makarating sa Scarborough Shoal? (*How many hours does it take you to reach Scarborough Shoal?*)
- A28: Mga 13 oras. Umaalis kami ng alas seis ng gabi at dumarating kami sa Scarborough Shoal ng alas syete ng umaga kinabukasan. (*About 13 hours. We leave Masinloc at 6 p.m. and arrive at Scarborough Shoal the following day at 7 a.m.*)
- Q29: Ano ang ginagamit nyo na panghuli ng isda sa Scarborough Shoal? (*What fishing equipment did you use in catching fish at Scarborough Shoal?*)
- A29: Gumagawit kami ng kawil. (*We used hooks.*)

*Judicial Affidavit of Richard Z. Comandante*

- Q30: Gaano katagal kayo sa Scarborough Shoal nuong nangingisda pa kayo doon? (*How long did you stay at Scarborough Shoal when you were still fishing there?*)
- A30: Mga 2 hanggang 3 araw. (*From two to three days.*)
- Q31: Saan kayo mismo nangingisda sa Scarborough Shoal? (*Where specifically were you fishing at Scarborough Shoal?*)
- A31: Sa gilid kami ng Scarborough Shoal nangingisda. (*We fish at the side of Scarborough Shoal.*)
- Q32: Sa inyong tantya, gaano kalayo sa Scarborough Shoal ang sinasabi ninyong “gilid”? (*In your estimate, how far was this “side” from Scarborough Shoal that you were mentioning earlier?*)
- A32: Mga sampung metro. (*About ten meters.*)
- Q33: Kapag inabutan kayo ng masamang panahon sa Scarborough Shoal, ano ang ginagawa nyo? (*When caught in bad weather at Scarborough Shoal, what do you do?*)
- A33: Nagpapalipas kami sa loob ng Scarborough Shoal. (*We wait out the bad weather inside Scarborough Shoal.*)
- Q34: Ligtas ba na magpalipas kayo sa Scarborough Shoal kapag masama ang panahon? (*Was it safe to stay inside Scarborough Shoal during bad weather?*)
- A34: Oo, dahil nahaharang ng bato yung along malalaki. (*Yes, the rocks blocked the large waves.*)
- Q35: Gaano kadalas kayo nangingisda sa 1 taon sa Scarborough Shoal? (*How often do you fish at Scarborough Shoal in a year?*)
- A35: Sa buong taon, tuloy-tuloy ang aming pangangisda maliban lang ang buwan na June, July at August na iniwasan namin dahil sa bagyo. (*We fished all year round except the months of June, July and August, which we avoided because of typhoons.*)
-

- Q36: Maari mo bang isalarawan sa amin ang anyo ng Scarborough Shoal? (*Can you describe to us the physical appearance of Scarborough Shoal?*)
- A36: Ito ay “lubog na bato.” Sa bandang easte may daanan na kung saan pwedeng pumasok sa loob. Sa gitna nito ay may malaking lawa. (*It is a submerged rock. At the eastern part, there is an opening which you can enter. At the center, there is a big lagoon.*)
- Q37: Noong nagpupunta pa kayo sa Scarborough Shoal noong taong 2006 hanggang 2009, meron bang nagbabawal sa inyo na mangisda doon? (*When you were still going to Scarborough Shoal in the years 2006 to 2009, were you prohibited by anyone from fishing there?*)
- A37: Walang nagbabawal sa amin. (*No one prohibited us.*)
- Q38: Noong nagpupunta pa kayo sa Scarborough Shoal noong taong 2006 hanggang 2009, mayroon bang mga mangingisda doon na taga ibang bansa? Kung mayroon, saang bansa sila sa inyong pagkaaalam? (*When you were still going to Scarborough Shoal in the years 2006 to 2009, were there fishermen from other countries? If there were, what were their nationalities?*)
- A38: Oo. Nakakita ako ng mga Vietnamese, Taiwanese at Chinese na mangingisda. (*Yes. I saw Vietnamese, Taiwanese and Chinese fishermen.*)
- Q39: Paano ninyo nasabi na sila ay Taiwanese, Vietnamese o kaya ay Chinese na mangingisda? (*How were you able to tell that they were Vietnamese, Taiwanese or Chinese fishermen?*)
- A39: Ang hugis ng bangka ng Vietnamese ay pabilog at may bubong na nagsisimula sa unahan hanggang sa hulihan; ang Taiwanese naman ay hugis bote at kulay blue ang kanilang bangka; pag Chinese, ang bangka nila ay hugis bote at kadalasan ay puti ang kulay. (*Vietnamese boats had round shapes with the roof stretching from the front to the rear; Taiwanese boats were bottle-shaped and colored blue; Chinese boats were also bottle-shaped but colored white.*)
- Q40: Maari bang sabihin nyo sa amin ang naging karanasan ninyo sa mga mangingisda na taga ibang bansa doon sa Scarborough

*Judicial Affidavit of Richard Z. Comandante*

*Shoal? (Can you relate to us your experience with foreign fishermen at Scarborough Shoal?)*

A40: Wala kaming naging problema sa mangingisda sa ibang bansa. Nagpapalitan pa nga kami ng mga pagkain at gamit. *(We had no problem with fishermen from other countries. We even exchanged food and goods with them.)*

*Judicial Affidavit of Richard Z. Comandante*

BILANG KATUNAYAN, ako ay lumalagda ngayong ika-12 ng Nobyembre 2015, sa Candelaria, Zambales, Pilipinas, para patunayan ang katotohanan ng aking mga salaysay. Ako ay nagpapatunay na sinagot ko lahat ng mga itinanong sa akin dito, nang may kamalayan na ginagawa ko ito matapos manumpa, at na maaring may kriminal na pananagutan para sa pagsasalaysay ng walang katotohanan. *(IN WITNESS WHEREOF, I have hereunto affixed my signature on this 12<sup>th</sup> day of November 2015, in Candelaria, Zambales, Philippines, to prove the truthfulness of all my statements here. I hereby attest that I answered all the questions asked of me herein, fully conscious that I have done so under oath, and that I may face criminal liability for false testimony or perjury.)*

*Barlante*

**RICHARD Z. COMANDANTE**

Affiant

*Judicial Affidavit of Richard Z. Comandante*

REPUBLIC OF THE PHILIPPINES )  
 MUNICIPALITY OF CANDELARIA )S.S.  
 PROVINCE OF ZAMBALES )

Before me, a government official authorized to administer oath, personally appeared:

<u>Name</u>	<u>Document Presented/Number</u>	<u>Place/ Date of Issue</u>
Richard Z. Comandante	Voter's ID No. 7106-0071A- D2268RZC10000	Masinloc, Zambales/ December 12, 2003

who was identified by me through competent evidence of identity to be the same person who presented, signed the foregoing instrument before me, and who took an oath before me as to such instrument.

Witness my hand and seal this 12<sup>th</sup> day of November 2015.

  
**HERMES L. OCAMPO**  
 Administering Officer



Republic of the Philippines  
COMMISSION ON ELECTIONS  
Office of the Election Officer  
MASINLOC, ZAMBALES

VOTER CERTIFICATION

Voter's Identification Number : 7106-0071A-0225R2C10000-

Province : ZAMBALES  
Municipality : MASINLOC  
Barangay : INHOBOL  
Precinct No. : 0071A

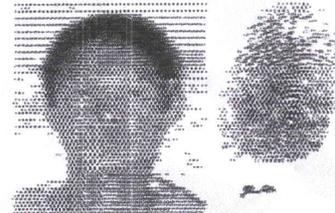
VRR No. : 7106010006229  
Illiterate/ Disabled : No

BIOMETRICS :

Name: COMANDANTE, RICHARD ZARAGOSA

Sex: Male Civil Status: Married

Residence: BALOGO INHOBOL MASINLOC ZAMBALES  
INHOBOL  
MASINLOC  
ZAMBALES



PERIOD OF RESIDENCE IN:

Philippines : 29 Year(s) Municipality : 14 Year(s) and 4 Month(s)

Date of Birth: 04/22/1980 Sex: M

Place of Birth: SURIGAO DEL SUR

Date of Registration: 12/12/2003 VOTING RECORD  
Current: Yes 05/10/2010 Previous: Yes

CERTIFIED CORRECT :

  
ARNOLD D. TAM

Election Officer

*Judicial Affidavit of Richard Z. Comandante*

REPUBLIC OF THE PHILIPPINES )  
 MUNICIPALITY OF CANDELARIA )S.S.  
 PROVINCE OF ZAMBALES )

Before me, a government official authorized to administer oath, personally appeared:

<u>Name</u>	<u>Identification No.</u>	<u>Place/ Date of Issue</u>
RAYMUND I. RIGODON	OSG ID No. 1995- 07001	Makati City / December 2014

who was identified by me through competent evidence of identity to be the same person who presented, signed the foregoing instrument before me, and who took an oath before me as to such instrument.

Witness my hand and seal this 12<sup>th</sup> day of November 2015.

  
**HERMES L. OCAMPO**  
 Administering Officer

**SWORN ATTESTATION**

I, **RAYMUND I. RIGODON**, of legal age, and with office address at the Office of the Solicitor General, 134 Amorsolo St., Legaspi Village, Makati City, after having been sworn in accordance with law, hereby depose and state:

1. I am a Senior State Solicitor from the Office of the Office of the Solicitor General, counsel for the Republic of the Philippines.

2. On November 12, 2015, I conducted the examination of Mr. Richard Z. Comandante in Filipino, a language known to the witness, at Candelaria, Zambales, which shall serve as Mr. Comandante's direct testimony in PCA Case No. 2013-19, in the matter of the Arbitration between the Republic of the Philippines and the People's Republic of China, which is pending before an Arbitral Tribunal constituted under Annex VII to the 1982 United Nations Convention on the Law of the Sea.

3. I have faithfully recorded or caused to be recorded the questions I asked and the corresponding answers that Mr. Comandante gave me.

4. During the said examination, neither I nor any other person assisted or coached Mr. Comandante regarding the latter's answers.

IN WITNESS WHEREOF, I hereby sign this Sworn Attestation this 12<sup>th</sup> day of November 2015 in Candelaria, Zambales, Philippines.



**RAYMUND I. RIGODON**  
Affiant

**Annex 694**

*Affidavit* of Mr. Tolomeo Forones (12 Nov. 2015)



PCA Case No. 2013-19

IN THE MATTER OF AN ARBITRATION

- before -

AN ARBITRAL TRIBUNAL CONSTITUTED UNDER ANNEX VII  
TO THE 1982 UNITED NATIONS CONVENTION  
ON THE LAW OF THE SEA

- between -

THE REPUBLIC OF THE PHILIPPINES

- and -

THE PEOPLE'S REPUBLIC OF CHINA

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**JUDICIAL AFFIDAVIT OF  
TOLOMEO D. FORONES**

**PURPOSE:** The testimony of the witness, Mr. Tolomeo D. Forones, is offered to prove the allegations in the Amended Statement of Claim and in support of the prayers therein. In particular, the offer is made to prove that the Scarborough Shoal is a traditional fishing ground of Filipino fishermen. The testimony is also offered to prove other matters related thereto.

Ako si **TOLOMEO D. FORONES**, Filipino, 61 taong gulang, nakatira sa South Poblacion, Masinloc, Zambales, Pilipinas, pagkatapos manumpa ng naaayon sa batas, ay malayang nagsasabi at sumasagot ng buong katotohanan sa mga tanong ni Assistant Solicitor General Hermes L. Ocampo ng Tanggapan ng Taga-usig Panlahat, sa Candelaria, Zambales, Pilipinas (*I, **TOLOMEO D. FORONES**, Filipino, 61 years old, and a resident of South Poblacion, Masinloc, Zambales, Philippines, after having been duly sworn in accordance with law, hereby willingly and freely answer the questions propounded by Assistant Solicitor General Hermes L. Ocampo of the Office of the Solicitor General, at Candelaria, Zambales, Philippines:*

**Q1:** Ano ang iyong kasalukuyang trabaho? (*What is your present occupation?*)

**A1:** Ako ay kasalukuyang namamasukan bilang *security guard* sa Masinloc Central Elementary School. (*I am currently employed as a security guard at the Masinloc Central Elementary School.*)

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- Q2: Kailan ka nagsimulang magtrabaho bilang *security guard*?  
(*When did you start working as a security guard?*)
- A2: Nagsimula akong mamasukan bilang *security guard* noong Agosto ng 2014. (*I started working as a security guard last August 2014.*)
- Q3: Bago ka naging *security guard*, ano ang iyong hanapbuhay?  
(*Before working as a security guard, what was your means of livelihood?*)
- A3: Ako ay mangingisda noon. (*I was a fisherman.*)
- Q4: Kailan ka nagsimulang mangisda? (*When did you start working as a fisherman?*)
- A4: Nagsimula akong mangisda noong taong 1970, nang ako ay mga 16 na taong gulang. Tinuruan ako ng aking tatay dahil naghanapbuhay din siya bilang mangingisda. (*I became a fisherman in 1970, at the age of 16. My father taught me how to fish because he was also a fisherman back then.*)
- Q5: Nabanggit mo na ang tatay mo ay tinuruan kang mangisda, anong paraan ng pangangisda ang itinuro ng tatay mo sa iyo?  
(*You mentioned that your father taught you to fish, what method of fishing did your father teach you?*)
- A5: Tinuruan ako ng tatay kong manghuli ng isda sa pamamagitan ng pana (*spearfishing*). Sa ganitong pamamaraan ako nangisda hanggang sa panahong tumigil ako mangisda. (*My father taught me the method of spearfishing. I used this method of fishing until I stopped fishing.*)
- Q6: Saan ka kadalasan nangingisda? (*Where do you usually fish?*)
- A6: Noong nagsisimula pa lang ako, madalas ay malapit sa baybayin ng Masinloc, Zambales lang ako pumapalaot. Pero noong panahon ng 1990, nagsimula nang dumami ang mga mangingisda sa nasabing baybayin at naging matumal ang huli ng isda. Ito ang dahilan kung bakit naisipan kong mangisda ng mas malayo roon. (*Back when I just started, I usually do not set out far from the shoreline of Masinloc, Zambales. But more fishermen congested the area in the 1990s, resulting in lesser catch of fish. So I decided to fish farther from the shore.*)

- Q7: Nabanggit mo na lumayo ka na sa baybayin para maiwasan ang dumaraming nangingisda, saan ka na nangisda noong panahong iyon? *(You mentioned that you fished farther from the shore when fishermen started to congest the area, where did you go then?)*
- A7: Ako po ay pumunta sa Scarborough Shoal nang mga panahong iyon dahil matagal ko nang naririnig ang lugar na iyon sa mga pinsan kong mangingisda. Una ko din ito narinig sa aking tatay dahil nakapunta na siya noon sa Scarborough Shoal. Ang tawag nila noon sa Scarborough Shoal ay “tacot,” ang Bisaya ng bahura. *(I went to Scarborough Shoal at that time because I have been hearing about this place from my cousins who were also fishermen. I also first heard about this place from my father because he was able to previously go to Scarborough Shoal. Back then, they referred to the Scarborough Shoal as a “tacot,” the Visayan term for reef.)*
- Q8: Gaano ka katagal na nangisda sa Scarborough Shoal? *(How long did you fish at Scarborough Shoal?)*
- A8: Nagsimula akong mangisda sa Scarborough Shoal noong 1996. Simula noon, doon na ako bumabalik-balik upang mangisda dahil sagana ang mga isda sa lugar na iyon. Sa loob ng isang taon, mga 4 na beses kaming bumabalik at nangingisda sa Scarborough Shoal na tumatagal ng mga 3 buwan bawat pamamalaot. Pumapasok kami mismo sa loob ng Scarborough Shoal at nangingisda sa paligid nito. Sa panahon na ito, may mga nakakasalamuha kaming mga mangingisda mula sa iba’t ibang bansa tulad ng Vietnam, Tsina, at Taiwan. *(I started fishing at Scarborough Shoal in the year 1996. Since then, I had been regularly returning to this place because there were plenty of fish in this area. We return to Scarborough Shoal 4 times a year and fish in the area for a period of 3 months. We went inside the Scarborough Shoal itself and its surrounding areas. During this period, we were able to interact with fisherfolk from other countries such as Vietnam, China, and Taiwan.)*
- Q9: Paano mo nalaman na banyaga ang ibang mga mangingisda sa Scarborough Shoal? *(How were you able to identify the foreign fisherfolk in Scarborough Shoal?)*
- A9: Ang kanilang mga bangka ay mayroong nakataas na watawat ng kanilang kani-kaniyang mga bansa. *(There are flags raised*

*on their respective boats, showing the countries where they came from.)*

Q10: Maari mo bang ilarawan ang bangka at gamit na dala ng mga banyagang mangingisda na ito? *(Please describe the boats and equipment that these foreign fisherfolk use in Scarborough Shoal.)*

A10: Ang gamit ng mga Tsino ay lantsa na walang katig, na may kakayahang magsakay ng mga 20 katao. Sa aking tantsa, ito ay may bigat na hindi lalagpas sa 50 tonelada. Ang mga Vietnamese at Taiwanese ay gumagamit din ng malaking lantsa. *(The Chinese use a motorboat with no outrigger, with a capacity of 20 people. In my estimate, it weighs no more than 50 tons. The Vietnamese and Taiwanese likewise use a large motorboat.)*

Q11: Anong paaran ng pangangisda ang ginagamit ng mga banyagang mangingisda? *(What method of fishing do these foreign fisherfolk use?)*

A11: Kaniya-kaniya sila ng pamamaraan ng pangangisda. Ang mga Tsino ay gumagamit ng *sodium cyanide* at mga dinamita. Para makahuli ng malalaking isda, gumagamit din sila ng malalaking patibong. Sa kabilang banda, ang mga Vietnamese ay humuhuli ng isda gamit din ang mga pana. Ang mga Taiwanese naman ay bumibingwit ng isda gamit ang mahabang kawil. *(They each have their own methods of fishing. The Chinese use sodium cyanide and dynamites. In order to catch larger fish, they set up traps. On the other hand, the Vietnamese likewise use the method of spearfishing. The Taiwanese, meanwhile, employ the method of longline fishing.)*

Q12: Anong uri ng mga isda ang hinuhuli nila sa Scarborough Shoal? *(What kind of fish do they catch in Scarborough Shoal?)*

A12: Ang mga Tsino ay humuhuli ng malalaking palos, pawikan at taklobo. Mahilig din sila kumuha ng mga koral. Samantala, ang mga Vietnamese ay humuhuli naman ng mga isda para sa konsumo ng tao, tulad ng lapu-lapu at mga *snapper*. Ang mga Taiwanese ay nagbibingwit ng tuna. *(The Chinese were catching large eels, tortoises, and giant clams. They were also taking corals. Meanwhile, the Vietnamese were catching fish for human consumption, like lapu-lapu and snappers. The Taiwanese were catching tuna.)*

- Q13: Ano ang ginagawa ninyo pag nakikita ninyo ang mga banyagang mangingisda? *(What do you do when you see these foreign fishermen?)*
- A13: Wala lang. Pinapabayaan lang namin at nagpapatuloy lang kaming mangisda. Ang mga banyagang mangingisda ay hindi rin kami pinapansin. Minsan ay nagpapalitan kami ng pagkain, tubig at ibang mga gamit. *(Nothing. We ignore them and continue about our business catching fish. The foreign fisherfolk likewise ignore us. Sometimes we exchange food, water and other supplies with them.)*
- Q14: Bukod sa mga banyagang mangingisda, ano pang mga sasakyang pang-dagat ang iyong nakita sa Scarborough Shoal? *(Aside from these foreign fisherfolk, what other vessels did you see in Scarborough Shoal?)*
- A14: Nakakakita ako ng mga yate na may sakay na mga turista. May pagkakataon na mayroong sasakyang pang-dagat ang Hukbong Dagat ng Pilipinas na umiikot sa Scarborough Shoal. Ito ay nagngangalang RPS Miguel Malvar. *(I noticed some yachts with tourists on board. There were also instances when a vessel from the Philippine Navy, named RPS Miguel Malvar, roved around Scarborough Shoal.)*
- Q15: Ano ang mga ginawa ng mga sasakyang pang-dagat na ito sa Scarborough Shoal? *(What activities did these vessels undertake in Scarborough Shoal?)*
- A15: Ang mga yate na may sakay na turista ay napapadaan lang sa Scarborough Shoal. Pero ang RPS Miguel Malvar ay nanghuhuli ng mga Tsinong maningisda dahil naka-angkla ang kanilang lantsa sa loob ng Scarborough Shoal. Ang ibang banyagang mga mangingisda ay madaling nakakatakas dahil nasa paligid lang sila ng Scarborough Shoal. *(The yachts with tourists on board only pass by Scarborough Shoal. The RPS Miguel Malvar, on the other hand, was apprehending Chinese fishermen whose motorboats were anchored inside the Scarborough Shoal. The other foreign fisherfolk were able to easily escape because they were outside the perimeter of the Scarborough Shoal.)*
- Q16: Anong uri ng permiso at lisensya ang iyong kinuha bago ka namalaot sa Scarborough Shoal? Kailan mo ito kinukuha?

*(What permits and licenses did you obtain before fishing in Scarborough Shoal? When did you procure these licenses?)*

A16: Ang aking bangka ay nakarehistro sa *Maritime Industry Authority* (MARINA). Bago pumalaot, ako din ay kinakailangan mag-tala ng pag-alis sa Bantay Dagat ng Pilipinas. Sinusulat ko ang pangalan ng mga kasama kong mamalaot, rehistro ng aking bangka, mga dalang karga, at kung saan kami pupunta. Matapos nito, bibigyan kami ng Bantay Dagat ng Pilipinas ng permiso na maglayag kung ang panahon ay maganda. Pagkagaling sa pamamalaot, kami ay kinakailangan din mag-tala ng aming pagdating sa Bantay Dagat ng Pilipinas. *(My boat is registered with MARINA. Before setting out to sea, I am required to record the names of my companions, the registration of my boat, the cargo, and the place of destination in the logbook of the Philippine Coast Guard. After this, the Philippine Coast Guard would issue a permit allowing us to navigate if the weather is fair. Upon our return, we are required to log our return with the Philippine Coast Guard.)*

Q17: Iyong nabanggit na namamalaot ka sa Scarborough Shoal ng 3 buwan bago ka bumalik sa baybayin, ano ang ginagamit mong bangka sa tuwing pumupunta ka doon? *(You mentioned that you fish in Scarborough Shoal for 3 months before returning, what kind of boat do you use whenever you go there?)*

A17: Ang aking bangka ay gawa sa kahoy, may katig, at may kapasidad na 4,000 kilo. Ang sukat nito ay 14 na metro ang haba, at halos 2 metro ang tangkad. Ito ay may makina na 260 horsepower. *(My boat is made of wood with an outrigger, and has a capacity of four 4,000 kilos. It is 14 meters in length, and almost 2 meters in height. It is equipped with a 260 horsepower motor.)*

Q18: Anong gamit ang mga dala mo bawat pamamalaot mo sa Scarborough Shoal? *(What do you bring with you whenever you fish in Scarborough Shoal?)*

A18: Ako ay nagdadala ng pagkain, kanin, pang-sahog sa pagkain, yelo para mapanatiling sariwa ang mga isdang nahuli, gasolina, at mga gamit pangisda. Sa bangka ko din isinasakay ang mga bangka ng mga pescador na may makinang 5 horsepower. Ang mga bangka naman na 16 horsepower ay hinihila papuntang Scarborough Shoal. Ang aking gamit na pana ay yari sa kahoy na may gomang nakatali. Ako ay nagdadala din ng GPS at

kompas sa bawat paglalayag. *(I bring food, rice, condiments, ice to keep the fish fresh, gasoline, and fishing equipment. I also load on to my boat the fishing boats that are equipped with a 5 horsepower motor. The fishing boats that are equipped with 16 horsepower motors are pulled towards Scarborough Shoal. I use a spear to fish, which is made of wood and rubber bands. I also bring a GPS and compass for our trip.)*

Q19: Sino ang iyong mga kasama tuwing pumupunta ka sa Scarborough Shoal? *(Who are your companions when you go to Scarborough Shoal?)*

A19: Sa bawat pamamalaot, ako ay may kasamanag mga 60 pescador. May dala kaming 3 bangka katulad ng sa aking inilirawan kanina. *(Every time I set out, I am accompanied by 60 fishermen. We bring 3 boats similar to that I previously described.)*

Q20: Ano ang sistema ng inyong pangangisda sa Scarborough Shoal? *(What is your system in catching fish at Scarborough Shoal?)*

A20: Pagdating namin, ang mga pescador, kabilang ako, ay mangangisda at pupunuin ang mga bangka ng aming mga nahuli. Pag ang isang bangka ay napuno na ng mga nahuling isda, aalis na ito at babalik na sa Masinloc, Zambales at matapos nito ay ibebenta sa Navotas, Malabon at Taguig. Mga 2 araw lang ang kinakailangan para mapuno ang isang bangka, kaya naman ay ang 3 bangka na dala namin ay nagsasalit sa pag-alis at pagbalik sa Scarborough Shoal sa loob ng 3 buwan. *(When we arrive, the fisherfolk and I go spearfishing to fill the boats with our catch. Once a boat is filled with the fish we caught, this boat will return to Masinloc, Zambales after which the catch will be sold in Navotas, Malabon and Taguig. It takes about 2 days to fill one boat with our catch, that's why the 3 boats took turns going to and from Scarborough Shoal for a period of 3 months.)*

Q21: Ano ang ginagawa mo pag may bagyo o kaya ay pumangit ang panahon at nakapalaot ka na sa Scarborough Shoal? *(What do you do if you set out for Scarborough Shoal and a storm arrives or the weather worsens?)*

A21: Kung mas malapit ang Scarborough Shoal kaysa sa baybayin ng Masinloc, Zambales, tutuloy na kami pumunta doon at papasok sa loob nito. Dahil may mga batuhan na nakapaligid, ligtas

kami sa malalakas na alon. (*If Scarborough Shoal is nearer than the coast of Masinloc, Zambales, we would continue to go inside of it. We are safe from strong waves inside it because of the surrounding rocks.*)

- Q22: Nabanggit mo na maraming mga isda sa Scarborough Shoal, anong uri ng mga isda ang iyong hinuhuli sa Scarborough Shoal? (*You mentioned that there are plenty of fish in Scarborough Shoal, what kind of fish do you usually catch in Scarborough Shoal?*)
- A22: Iba-ibang klase ng isda ang aking hinuhuli para sa konsumo ng mga tao. Ang ilan dito ay ang mga *snapper*, tarian, *parrot fish*, *buffalo fish* at pugita. (*I catch a variety of fish for human consumption. Some are snappers, unicorn fish, parrot fish, buffalo fish, and several octopuses.*)
- Q23: Magkano mo naibebenta ang mga isdang ito? (*How much do you sell these fish for?*)
- A23: Ang mga pugita ay naibebenta sa *Food Terminal* sa Taguig ng 120 piso bawat kilo. Ang mga isda naman ay naibebenta sa Navotas at Malabon ng 80 piso bawat kilo. (*The octopus sells at the Food Terminal in Taguig for Php120 per kilo. The fish, on the other hand, sells at Navotas and Malabon for Php80 per kilo.*)
- Q24: Kanina ay nabanggit mo rin na hindi ka na ngayon nangingisda, bakit ka tumigil at kailan ito nangyari? (*You also mentioned earlier that you no longer fish, why did you stop and when did this happen?*)
- A24: Noong 2008 pa lamang, napansin ko na may nagsimula nang mag-ikot na sasakyang pang-dagat na nagngangalang *Chinese Maritime Surveillance*. Gayon pa man, wala pang nagbabawal sa amin mangisda doon hanggang sa kaming mga mangingisda ng Masinloc ay pumunta ng Scarborough Shoal noong April 2012. Sa panahong ito, hinarang kami ng Bantay Dagat ng Pilipinas at pinagsabihan na itigil na ang pangangisda dito dahil nagkakaroon na ng kaigtingan o tensyon sa pagitan ng Pilipinas at bansang Tsina. Nakita naming madami nang mga sasakyang pang-dagat ng pamahalaang Tsina doon kaya naman ay bumalik na kami at hindi na muling nakapangisda simula noon. Sa kabila nito, ilan sa mga mangingisdang kasabay namin na nagmula sa ibang lugar ay nakalusot sa panghaharang ng

Bantay Dagat ng Pilipinas at nakalapit sa Scarborough Shoal. Subalit sila'y pinigilan ng mga Tsino na mangisda doon sa pamamagitan ng pag-kanyon ng tubig sa mga mangingisdang Filipino. *(As early as 2008, I already noticed a Chinese vessel named Chinese Maritime Surveillance, which roved around the area. In any event, we were not prevented from fishing in Scarborough Shoal until I, together with some fisherfolk from Masinloc, went there last April 2012. At that time, we were prevented by the Philippine Coast Guard from fishing in the area because it caused tension between the Philippines and China. Since we saw several vessels of the Chinese government, we turned back and we were unable to fish there since then. Despite this, several fishermen from a different municipality were able to get around the Philippine Coast Guard to get near the Scarborough Shoal. However, the Chinese prevented them from fishing in the area by firing the water cannon at the Filipino fishermen.)*

Q25: Sino na lang ang nakakapangisda sa Scarborough Shoal? *(Who are now able to fish in Scarborough Shoal?)*

A25: Wala ng nakakapangisda doon ngayon. Noong Hunyo 2012 at Hulyo 2013, sinubukan ko ulit pumunta ng Scarborough Shoal kasama ang ilang miyembro ng *media*. Pagdating namin doon, puro sasakyang pang-dagat lang ng mga Tsinong Bantay Dagat ang nandoon para itaboy lahat ng sumusubok pumasok. *(No one fishes there anymore. I tried to go back to Scarborough Shoal last June 2012 and July 2013 with some members of the media. When we arrived, only Chinese Coast Guard vessels were there to drive away anyone who attempts to go in.)*

Q26: Matapos kang pigilan mangisda sa Scarborough Shoal, saan ka na nangingisda? *(After you were prohibited from fishing in Scarborough Shoal, where did you catch fish?)*

A26: Hindi na ako nangisda dahil kung sa malapit ka lang mangingisda, tama lang ang iyong mahuhuli at kakaunti ang naibebenta. Kaya naman noong 2012 ay ibinenta ko na ang aking bangka. Ang aking asawa ay nagtayo ng maliit na tindahan at ako ay namasukan bilang *security guard*. *(I stopped fishing because the catch and the earnings are small if you fish in the nearby waters. This is the reason why I sold my boat last 2012. My wife put up a small store and I work as a security guard.)*

Q27: Paano nito naapektuhan ang iyong hanapbuhay? (*How did this affect your livelihood?*)

A27: Dati ay malaki ang aking kinikita sa pangangisda sa Scarborough Shoal dahil sagana ang mga isda doon. Wala akong problema sa panghuhuli ng isda noon at ako ay kumikita ng Php40,000 bawat pamamalaot, sa loob ng 3 buwan. Ngayon, lumiit na ang aking kita dahil hindi na ako nakakapangisda. Ang aking sahod ngayon bilang *security guard* ay Php7,000 lamang kada buwan. Ang aking trabaho bilang *security guard* ay kontraktwal pa sa loob ng 3 buwan, kaya walang kasiguruhan ang aking hanapbuhay. (*I earned a lot of money from fishing in Scarborough Shoal because there were plenty of fish in that area. I had no problems catching fish then and I am able to earn Php40,000 every 3 months. But now, my earnings decreased because I no longer fish for a living. My current salary as a security guard is only Php7,000 a month. Furthermore, my employment as a security guard is only contractual for every 3 months so my income and earnings is uncertain.*)

*Judicial Affidavit of Tolomeo D. Forones*

BILANG KATUNAYAN, ako ay lumalagda ngayong ika-12 ng Nobyembre 2015, sa Candelaria, Zambales, Pilipinas, para patunayan ang katotohanan ng aking mga salaysay. Ako ay nagpapatunay na sinagot ko lahat ng mga itinanong sa akin dito, nang may kamalayan na ginagawa ko ito matapos manumpa, at na maaring may kriminal na pananagutan para sa pagsasalaysay ng walang katotohanan. (*IN WITNESS WHEREOF, I have hereunto affixed my signature on this 12<sup>th</sup> day of November 2015, in Candelaria, Zambales, Philippines, to prove the truthfulness of all my statements here. I hereby attest that I answered all the questions asked of me herein, fully conscious that I have done so under oath, and that I may face criminal liability for false testimony or perjury.*)

  
**TOLOMEO D. FORONES**  
Affiant

*Judicial Affidavit of Tolomeo D. Forones*

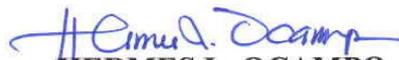
REPUBLIC OF THE PHILIPPINES        )  
MUNICIPALITY OF CANDELARIA        )S.S.  
PROVINCE OF ZAMBALES                )

Before me, a government official authorized to administer oath, personally appeared:

<u>Name</u>	<u>Identification No.</u>	<u>Place/ Date of Issue</u>
Tolomeo D. Forones	COMELEC Voter's ID No. 7106-0014B- J1954TDF10000	Masinloc, Zambales

who was identified by me through competent evidence of identity to be the same person who presented, signed the foregoing instrument before me, and who took an oath before me as to such instrument.

Witness my hand and seal this 12<sup>th</sup> day of November 2015.

  
**HERMES L. OCAMPO**  
Administering Officer



Republic of the Philippines  
**COMMISSION ON ELECTIONS**

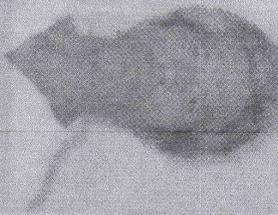
MASINLOC, ZAMBALES

VIN: 7106-0014B-J1954TDF10000

**FORONES  
TOLMEO  
DIZON**

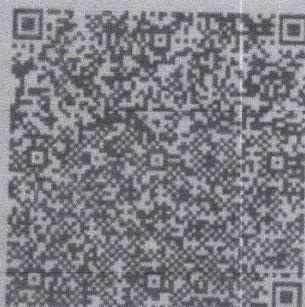
Date of Birth : October 19, 1954  
Civil Status : Married  
Citizenship : Filipino  
Address : STA. LUCIA, SOUTH POBLACION

Precinct No. : 0014B



Signature of Voter

**JOSE A.R. MELO**  
Chairman



**SWORN ATTESTATION**

I, **HERMES L. OCAMPO**, of legal age, and with office address at the Office of the Solicitor General, 134 Amorsolo St., Legaspi Village, Makati City, after having been sworn in accordance with law, hereby depose and state:

1. I am an Assistant Solicitor General from the Office of the Office of the Solicitor General, counsel for the Republic of the Philippines.

2. On November 12, 2015, I conducted the examination of Mr. Tolomeo D. Forones in Filipino, a language known to the witness, at Candelaria, Zambales, which shall serve as Mr. Forones' direct testimony in PCA Case No. 2013-19, in the matter of the Arbitration between the Republic of the Philippines and the People's Republic of China, which is pending before an Arbitral Tribunal constituted under Annex VII to the 1982 United Nations Convention on the Law of the Sea.

3. I have faithfully recorded or caused to be recorded the questions I asked and the corresponding answers that Mr. Forones gave me.

4. During the said examination, neither I nor any other person assisted or coached Mr. Forones regarding the latter's answers.

IN WITNESS WHEREOF, I hereby sign this Sworn Attestation this 12<sup>th</sup> day of November 2015 in Candelaria, Zambales, Philippines.

  
**HERMES L. OCAMPO**  
Affiant

REPUBLIC OF THE PHILIPPINES            )  
MUNICIPALITY OF CANDELARIA        )S.S.  
PROVINCE OF ZAMBALES                )

Before me, a government official authorized to administer oath, personally appeared:

<u>Name</u>	<u>Identification No.</u>	<u>Place/ Date of Issue</u>
Hermes L. Ocampo	OSG ID No. 1996-06002	Makati City / December 2014

who was identified by me through competent evidence of identity to be the same person who presented, signed the foregoing instrument before me, and who took an oath before me as to such instrument.

Witness my hand and seal this 12<sup>th</sup> day of November 2015.

  
**RAYMUND I. RIGODON**  
Administering Officer



**Annex 695**

*Affidavit* of Mr. Miguel Lanog (12 Nov. 2015)



PCA Case No. 2013-19

## IN THE MATTER OF AN ARBITRATION

- before -

AN ARBITRAL TRIBUNAL CONSTITUTED UNDER ANNEX VII  
TO THE 1982 UNITED NATIONS CONVENTION  
ON THE LAW OF THE SEA

- between -

THE REPUBLIC OF THE PHILIPPINES

- and -

THE PEOPLE'S REPUBLIC OF CHINA

**JUDICIAL AFFIDAVIT OF  
MR. MIGUEL C. LANOG**

**PURPOSE:** The testimony of the witness, Mr. Miguel C. Lanog, is offered to prove the allegations in the Amended Statement of Claim and in support of the prayers therein. In particular, the offer is made to prove that the Scarborough Shoal is a traditional fishing ground of Filipino fishermen. The testimony is also offered to prove other matters related thereto.

Ako si **MIGUEL C. LANOG**, Filipino, 59 taong gulang, nakatira sa Inhobol, Masinloc, Zambales, Pilipinas, pagkatapos manumpa ng naaayon sa batas, ay malayang nagsasabi at sumasagot ng buong katotohanan sa mga tanong ni Associate Solicitor Nielson G. Pangan ng Tanggapan ng Taga-usig Panlahat, sa Candelaria, Zambales, Pilipinas (*I, **MIGUEL C. LANOG**, Filipino, 59 years old, and a resident of Inhobol, Masinloc, Zambales, Philippines, after having been duly sworn in accordance with law, hereby willingly and freely answer the questions propounded by Associate Solicitor Nielson G. Pangan of the Office of the Solicitor General, at Candelaria, Philippines*):

**Q1:** Gaano ka na katagal naninirahan sa bayan ng Masinloc? (*How long have you been residing in Masinloc?*)

**A1:** Nasa 35 taon na akong naninirahan sa Masinloc. Dumating ako sa Masinloc noong 1980 upang dito magrabaho bilang isang kapitan ng "lantsa." (*I have been residing in Masinloc for almost 35 years already. I moved to Masinloc to serve as a fishing boat captain.*)

*Judicial Affidavit of Miguel Lanog*

- Q2: Bago ka manirahan sa Masinloc noong 1980, saang bahagi ng Pilipinas ka nagmula? (*Before arriving in Masinloc in 1982, in which region in the Philippines had you been residing?*)
- A2: Ako ay nagmula sa Southern Leyte. Kinalaunan noong 1975 ay nagpunta ako ng Maynila at doon nagtrabaho bilang security guard. (*I originated from Southern Leyte. In 1970, I went to Manila and worked as a security guard.*)
- Q3: Mula sa Maynila, paano ko napadpad ng Masinloc? (*From Manila, how did you end up in Masinloc?*)
- A3: Ako ay tinanggap bilang kapitan ng lantsa na pag-aaari ng Browe fishing company. Dahil sa malawak na pangangisda ng kumpanya sa mga dagat malapit sa Zambales papuntang Ilocos Sur, ako ay pinadala sa Masinloc kung saan doon nagpasya na rin manirahan. (*I was hired as a captain of a fishing boat owned by Browe fishing company. Considering the company's large-scale fishing activities in the seas of Zambales to Ilocos Sur, I was made to transfer to Masinloc, where I also established my home.*)
- Q4: Gaano ka katagal na nagtrabaho para sa Browe? (*How long did you work for Browe?*)
- A4: Mula 1982 hanggang 1989 ako nagtrabaho sa Browe bilang isang kapitan. (*I worked as fishing captain for Browe from 1982 to 1989.*)
- Q5: Pagkatapos ng iyong pagtatrabaho sa Browe, ano ang iyong ginawa? (*After working for Browe, what did you do?*)
- A5: Ako ay nagpatuloy sa pagiging kapitan ng bangka bagaman sa ilalim ng bagong employer—Prince Way. (*I continued to work as fishing boat captain although under a new employer—Prince Way.*)
- Q6: Nabanggit mo na ikaw ay isang kapitan ng lantsa, maaari mo bang ilarawan ang lantsa at kung paano ninyo isinasagawa ang pangangisda gamit ito? (*You mentioned that you had been working as a captain of a fishing boat. Could you explain to us the nature of such vessel and describe how you use it in your fishing activities?*)
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*Judicial Affidavit of Miguel Lanog*

- A6: Ang lantsa na aking ginagamit noon ay may kakayahang magsakay ng hanggang 24 na tao na binubuo ng kapitan, mga miyembro ng crew at lahat ng mga mangingisda. Pinapausad ko ang lantsa hanggang sa tamang layo nito sa baybay, ibinababa ang paway at saka nilalambat ang mga isda na nagkakatipon. *(The fishing vessel I used to operate could carry up to 24 people, which comprise the captain, crew members and the rest of the fisherfolk. I would move the vessel up to a certain point from the shoreline; together with the other fisherfolk, drop the fish aggregating device; and, thereafter, throw the net to trap the fish.)*
- Q7: Nabanggit mo na pinapausad mo ang bangka sa tamang layo nito. Gaano kalayo iyon mula sa baybay? *(You mentioned that you position the vessel at a proper distance from the shoreline. How far was that?)*
- A7: Noong nagsisimula pa lang ako noon 1982, madalas ay malapit sa baybayin lang ako pumapalaot o hanggang 1 milya. Pero pagkalipas ng ilang taon, ipinaabot ko na ang bangka hanggang 8 milya mula sa baybay. *(When I started in 1982, I set out up to 1 mile only from the shoreline. A few years later, I started to go farther up to 8 miles.)*
- Q8: Bakit mo kinailangan na lumayo hanggang 8 milya mula sa baybay? *(Why did you have to go as far as 8 miles from the shoreline?)*
- A8: Kinailangan ko layuan ang aking pagbaybay upang makarating sa lugar na mas maraming makukuhanang iba't ibang uri ng isda tulad ng isdang bato. *(I needed to go farther in order to find a rich marine area where I could catch different varieties of fish such as "isdang bato" [fish that can be found on rocks lying underneath the water surface].)*
- Q9: Nakapunta ka ba sa lugar na mayroong iba't ibang uri ng isdang mahuhuli? *(And where you able to find an area rich with marine resources such as different varieties of fish?)*
- A9: Nakarating kami ng aking mga kasama, tulad nang ibang mga mandaragat, sa paligid ng Scarborough Shoal *(As with other fisherfolk at that time, my team and I were able to reach a fishing area near Scarborough Shoal.)*
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*Judicial Affidavit of Miguel Lanog*

Q10: Nabanggit ninyo ang Scarborough Shoal. Narating ba ninyo iyon mismo? *(You mentioned Scarborough Shoal. Have you been there?)*

A10: Hindi ko man naakyat ang mismong Scarborough Shoal, maraming beses na iniikot naming ang paligid nito. *(While I may not have actually stepped on the rocks of Scarborough Shoal, I experienced fishing along the waters around it.)*

Q11: Saan ang pinakamalapit na napuntahan ninyo? *(How close from it have you reached whenever you fish?)*

A11: May mga 2 hanggang 5 milya mula roon. *(I reached the fishing area, which covers around 2 to 5 meters from the Scarborough Shoal.)*

Q12: Kailan ang unang pagkakataon na natunton ninyo ang lugar na iyon (malapit sa Scarborough), at mula noon ay gaano kadalas ninyo ito pinupuntahan upang mangisda? *(When was the first time that you reached that area? Since then, how often did you frequent the place to fish?)*

A12: Tanong 1987 nang una kong napuntahan ang paligid ng Scarborough shoal. Mula noon, habang ako ay kapitan ng lantsa sa Prince Way, hanggang 1996 ay pumapalaot kami patungo doon kada buwan. *(It was in the year 1987 when I first reached the waters around Scarborough shoal. From then—during the time I was serving as captain of a vessel, until 1996, I was regularly sent to said area as often as once a month.)*

Q13: Ano pa ang iyon natuklasan tungkol sa Scarborough? *(What else did you learn about Scarborough?)*

A13: Madalas na naming naririnig na maraming mahuhuling isda talaga doon. Katunayan, maraming mga taga ibang bansa tulad ng mga Taiwanese at Vietnamese na nanghuhuli ng mga bihirang isda doon. *(We have been hearing about it as rich fishing grounds. Taiwanese and Vietnamese used to go there to catch rare species of fish.)*

Q14: At kapag nandoon na kayo sa tubig malapit sa Scarborough, gaano kayo katagal namamalagi? *(Whenever you reach the fishing grounds around Scarborough Shoal, how long does your group stay there?)*

A14: Umaalis kami kadalasan nang alas-dos ng umaga at makakarating sa paligid noon nang alas-syete ng umaga. Dahil sa layo ng lugar, nananatili kami sa aming mga bangka sa loob ng 3 lingo. (*We leave the shores of Masinloc at around two in the morning [2am] and arrive at said fishing area around seven in the morning [7am]. Because of its distance, we usually stay there for 3 weeks.*)

Q15: Gaano karami ang isda na nakukuha ninyo sa paligid ng Scarborough at magkano ang inyong kinikita? (*How much fish do you usually catch along the waters around Scarborough, and how much do you earn out of your catch?*)

A15: Nasa 7 hanggang 10 tonelada ng isda ang aming nahahango. Dahil ako ay nagtatrabaho para sa isang kumpanya, swelduhan ang aking kita. Ganunpaman, nakakatanggap rin ako ng komisyon na Php800 kada Php7,000 na halaga ng aking huli. Maliban sa komisyon, nakakapag-uwi din ako ng 2 banyera o katumbas ng 20 kilo ng isda. (*About 7 to 10 tons of fish. Because I was an employee of a fishing company, I get a fixed salary. Nonetheless, I receive, as commission, Php800 for every Php7,000 worth of fish. Besides that, our company allows us to take home about 2 containers of fish, weighing around 2 kilograms.*)

Q16: At anu-anong uri ng isda ang mga ito? (*What are the different kinds of fish you used to catch?*)

A16: Ilan sa mga isda na nahuhuli naming ay yellow fin tuna, tulingan, galunggong, bonito o gulyasan. (*Among the varieties are yellow fin, tuna, "galunggong," "bonito" and "gulyasan."*)

Q17: Maliban sa inyong grupo, mayroon pa bang ibang mga mangingisda na pumapalaot doon? (*Other than your group, were there other fisherfolk in the area?*)

A17: May ibang mga mangingisda din galing sa iba't ibang dako ng Pilipinas. Maliban dito ay mga Tsino din kaming nakakasabay. (*There were other Filipinos from different parts of the country. Chinese fishermen were also present.*)

Q18: Kailan ninyo nalaman ang tungkol mga Tsino na namamalagi sa Scarborough? (*When did you learn about the presence of Chinese fishermen in the area?*)

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- A18: Noong 1982 ko nabalitaan na maliban sa mga Pilipino, ay mga Tsinong nanghuhuli din ng isda sa paligid ng Scarborough. (*I learned in 1982 that aside from Filipino fishermen, there are also Chinese fishermen in Scarborough and the nearby areas.*)
- Q19: Ano ang hinuhuli o kinakalap ng mga Tsino? (*What were being caught or collected by the Chinese fishermen?*)
- A19: Ilan sa mga kanilang hinuhuli ay tuna, pating, susay, dorado, tanigue, seafood; at kahit corals ay kanilang kinukuha. (*Among were tuna, shark, "susay," "dorado," other sea creatures and even corals.*)
- Q20: Ano ang ginagamit ng mga Tsino na gamit at sasakyan? (*What kind of vessels were the Chinese fishermen using?*)
- A20: Ang ginagamit nila ay mga barko na may katamtamang laki. Ito ay mas malaki sa mga lantsang ginagamit namin. (*What the Chinese used were medium-sized vessels. They were larger than our vessels.*)
- Q21: May mga pagkakataon ba na nagkakaproblema ang mga mangingisdang Tsino sa presensya ninyo sa laot? (*Were there instances when a conflict arose between you and the Chinese fishermen?*)
- A21: May ilang pagkakataon. Ang halimbawa ay ang takutan sa laot. Ganunpaman, walang naging seryosong engkwentro o pag-aaway. (*There were a few occasions. An example is when either side tried to scare the other away. However, those encounters never lead to serious confrontations or fights.*)
- Q22: Nagkaroon ba ng pagkakataon na nakasalamuha mo ang mga mangingisdang Tsino? (*Were there interactions between you or your group and the Chinese fishermen?*)
- A22: Madalas namin silang nakakasalubong sa laot. Kumakaway sila upang batiin kami. May ilang pagkakataon din na nakikitali sila sa aming bangka. Sa pamamagitan din ng sensyasan ay nakikipagpalitan sila minsan ng mga bagay tulad ng sigarilyo, alak o bigas. (*We usually pass by them along the fishing grounds. They wave their hands to greet us. There were instances when Chinese fishermen would request to have the ropes of their boats tied into ours. Through hand signs, we got*

*to communicate with them. We sometimes exchange goods such as cigarettes, liquor or rice.)*

Q23: Hanggang kailan kayo nangisda sa paligid ng Scarborough Shoal? *(Until when did you conduct fishing activities near Scarborough Shoal?)*

A23: Tumigil kami mangisda nang magsimula ang tensyon sa pagitan natin at ng Tsina at nang dumami ang mga Tsino na may sasakyang pang-dagat doon. Ganun pa man, marami pa rin na nangingisda malapit sa paligid ng Scarborough tulad ng aking anak na si Michael na ngayon ay nagtatrabaho sa R.B. Fishing Company. *(We stopped when tensions between us and China arose and Chinese ships were already positioned there. Nonetheless, some of the locals here, including my son, Michael, who is currently working for R.B. Fishing Company, still attempt to reach the area to catch fish.)*

Q24: Sa pagkakaalam ninyo, lahat ba ng mga Pilipino ay pinagbawalan ng mga Tsino? *(Was there a total ban by the Chinese authorities on Filipino fishermen?)*

A24: Lahat ay binawalan. Talagang wala nang nakapasok sa Scarborough mula noon maliban noong bagyong Lando nang may ilang Pilipino na doon nagligtas ng kanilang sarili. *(Everyone was prohibited. No one was able to reach Scarborough since then, except during the height of typhoon "Lando" when Filipino fishermen tried to save themselves by holding on the rocks of Scarborough.)*

Q25: Sa gitna ng mga pangyayaring ito, mayroon bang ginawa o partisipasyon ang mga tauhan ng gobyerno upang isaayos o di kaya ay kontrolin ang pangangisda ninyo? *(In the middle of all this, was there any action by our government to regulate fishing activities?)*

A25: Tuwing bago kami pumalaot ay nagrereport kami sa Philippine Coast Guard at pagbalik naman naming ay sinusukat ng Bureau of Fisheries and Aquatic Resources and dami ng aming nahuli. *(We report to the Philippine Coastguard prior to conducting any fishing activity. On the other hand, the Bureau of Fisheries and Aquatic Resources monitors the volume of our harvest upon return.)*

*Judicial Affidavit of Miguel Lanog*

- Q26: Maliban sa mga Tsino, may iba pa bang nasyonalidad na nakakasabay ninyong mangisda. *(Other than the Chinese fisherfolk, were there other foreign nationals that you encountered fishing near Scarborough?)*
- A26: Mga Vietnamese at Taiwanese. May isang pagkakataon pa na nagligtas kami ng Taiwanese matapos halos lumubog ng kanyang bangka. *(There were some Vietnamese and Taiwanese. I recall one instance when we saved a Taiwanese fisherman, whose vessel almost capsized.)*
- Q27: Ano ang naging epekto sa inyong pangangisda ng pagbabawal ng mga Tsino sa inyong pangangisda? *(What was the effect in your community of the Chinese interference with the fishing activities along Scarborough Shoal?)*
- A27: Lumiit ang kita naming mangangisda ng sobra. Mula noong pagbawalan ng mga Tsino ang paghuli sa bahaging malapit sa Scarborough, hindi na ako nakakakuha ng komisyon sa aking kompanyang pinapasukan dahil na rin sa liit ng kita. Maliban dito ay kaunti na lang ang isdang aking nauwi. Sa bahagi ng aking anak, ang dati niyang kita na Php7,000 hanggang Php9000 kada linggo ay naging Php1,500 hanggang 3,000 na lamang. *(My income reduced drastically. I never received commission income from the company anymore since then, nor was allowed to take as much quantity of extra fish as before. As to my son who also works for a fishing company, his original income of Php7,000 to Php9000 per week went as low as Php1,500 to 3,000 since the Chinese authorities prohibited his company to fish near Scarborough.)*
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*Judicial Affidavit of Miguel Lanog*

BILANG KATUNAYAN, ako ay lumalagda ngayong ika-12 ng Nobyembre 2015, sa Candelaria, Zambales, Pilipinas, para patunayan ang katotohanan ng aking mga salaysay. Ako ay nagpapatunay na sinagot ko lahat ng mga itinanong sa akin dito, nang may kamalayan na ginagawa ko ito matapos manumpa, at na maaring may kriminal na pananagutan para sa pagsasalaysay ng walang katotohanan. *(IN WITNESS WHEREOF, I have hereunto affixed my signature on this 12<sup>th</sup> day of November 2015, in Candelaria, Zambales, Philippines, to prove the truthfulness of all my statements here. I hereby attest that I answered all the questions asked of me herein, fully conscious that I have done so under oath, and that I may face criminal liability for false testimony or perjury.)*

  
MIGUEL C. LANOG  
Affiant

*Judicial Affidavit of Miguel Lanog*

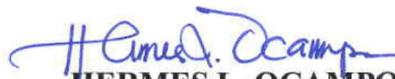
REPUBLIC OF THE PHILIPPINES    )  
MUNICIPALITY OF CANDELARIA    )S.S.  
PROVINCE OF ZAMBALES            )

Before me, a government official authorized to administer oath, personally appeared:

<u>Name</u>	<u>Identification No.</u>	<u>Place/ Date of Issue</u>
Miguel C. Lanog	COMELEC Voter's ID No. 7106-0066C-G2956MCL	Masinloc, Zambales

who was identified by me through competent evidence of identity to be the same person who presented, signed the foregoing instrument before me, and who took an oath before me as to such instrument.

Witness my hand and seal this 12<sup>th</sup> day of November 2015.

  
**HERMES L. OCAMPO**  
Administering Officer

Republic of the Philippines  
**COMMISSION ON ELECTIONS**  
MAGSAYSAY ZAMBALES  
VIN: 7106-0086C-C2958WICL 10000



**LANDIG**  
**WIGDEL JR.**  
**CONTESTABLE**

Date of Birth : July 29, 1956  
Civil Status : Married  
Citizenship : Filipino  
Address :  
BALOGO  
INAGROD  
Precinct No. : 0086C



*[Handwritten Signature]*  
Signature of Voter

*[Handwritten Signature]*  
**JOSE A.R. MELO**  
Chairman

**SWORN ATTESTATION**

I, **NIELSON G. PANGAN**, of legal age, and with office address at the Office of the Solicitor General, 134 Amorsolo St., Legaspi Village, Makati City, after having been sworn in accordance with law, hereby depose and state:

1. I am an Associate Solicitor from the Office of the Office of the Solicitor General, counsel for the Republic of the Philippines.

2. On November 12, 2015, I conducted the examination of Mr. Miguel C. Lanog in Filipino, a language known to the witness, in Candelaria, Zambales, which shall serve as Mr. Lanog's direct testimony in PCA Case No. 2013-19, in the matter of the Arbitration between the Republic of the Philippines and the People's Republic of China, which is pending before an Arbitral Tribunal constituted under Annex VII to the 1982 United Nations Convention on the Law of the Sea.

3. I have faithfully recorded or caused to be recorded the questions I asked and the corresponding answers that Mr. Lanog gave me.

4. During the said examination, neither I nor any other person assisted or coached Mr. Lanog regarding the latter's answers.

IN WITNESS WHEREOF, I hereby sign this Sworn Attestation this 12<sup>th</sup> day of November 2015 in Candelaria, Zambales, Philippines.

  
**NIELSON G. PANGAN**  
Affiant

*Judicial Affidavit of Miguel Lanog*

REPUBLIC OF THE PHILIPPINES )  
MUNICIPALITY OF CANDELARIA )S.S.  
PROVINCE OF ZAMBALES )

Before me, a government official authorized to administer oath, personally appeared:

<u>Name</u>	<u>Identification No.</u>	<u>Place/ Date of Issue</u>
Nielson G. Pangan	OSG ID No. 2014-06008	Makati City / July 2014

who was identified by me through competent evidence of identity to be the same person who presented, signed the foregoing instrument before me, and who took an oath before me as to such instrument.

Witness my hand and seal this 12<sup>th</sup> day of November 2015.

  
**RAYMUND I. RIGODON**  
 Administering Officer



**Annex 696**

*Affidavit* of Mr. Jowe Legaspi (12 Nov. 2015)



PCA Case No. 2013-19

IN THE MATTER OF AN ARBITRATION

- before -

AN ARBITRAL TRIBUNAL CONSTITUTED UNDER ANNEX VII  
TO THE 1982 UNITED NATIONS CONVENTION  
ON THE LAW OF THE SEA

- between -

THE REPUBLIC OF THE PHILIPPINES

- and -

THE PEOPLE'S REPUBLIC OF CHINA

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**JUDICIAL AFFIDAVIT OF  
MR. JOWE P. LEGASPI**

**PURPOSE:** The testimony of the witness, Mr. Jowe P. Legaspi, is offered to prove the allegations in the Amended Statement of Claim and in support of the prayers therein. In particular, the offer is made to prove that the Scarborough Shoal is a traditional fishing ground of Filipino fishermen. The testimony is also offered to prove other matters related thereto.

Ako si **JOWE P. LEGASPI**, Filipino, 45 taong gulang, nakatira sa Cato, Infanta, Pangasinan, Pilipinas, pagkatapos manumpa ng ayon sa batas, ay malayang nagsasabi at sumasagot ng buong katotohanan sa mga tanong ni Assistant Solicitor General Hermes L. Ocampo ng Tanggapan ng Taga-usig Panlahat, sa Infanta, Pangasinan, Pilipinas. *(I, **JOWE P. LEGASPI**, Filipino, 45 years old, and a resident of Cato, Infanta, Pangasinan, Philippines, after having been duly sworn in accordance with law, hereby willingly and freely answer the questions propounded by Assistant Solicitor General Hermes L. Ocampo of the Office of the Solicitor General, at Infanta, Pangasinan, Philippines.):*

Q1: Ano po ang inyong kasalukuyang trabaho? *(What is your present occupation?)*

A1: Mangingisda at barangay kagawad. *(Fisherman and barangay [village] councilor.)*

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- Q2: Saan po kayo nangingisda? (*Where are you fishing?*)
- A2: Dito po sa baybayin ng Infanta, Pangasinan pero dati po sa Scarborough Shoal at sa paligid po nito. (*Here, in the coast of Infanta, Pangasinan but before in Scarborough Shoal and its surrounding.*)
- Q3: Nabanggit ninyo na nangingisda kayo dati sa Scarborough Shoal. Saan po mas maraming nahuhuli, sa baybayin ng Infanta o sa Scarborough Shoal? (*You mentioned that you were fishing before at Scarborough Shoal. Where are there more abundant fish, at the coast of Infanta or at Scarborough Shoal?*)
- A3: Sa Scarborough Shoal po. (*At Scarborough Shoal.*)
- Q4: Kailan ninyo po nalaman na ang Scarborough Shoal ay magandang pangisdaan? (*When did you have knowledge that Scarborough Shoal is an abundant fishing area?*)
- A4: Noong 1982 po. Napapagkuwentuhan ng mga matatandang mangingisda noong panahon na iyon na madaming isda doon. (*In 1982. There were already stories from old fishermen that there were so many fish there.*)
- Q5: Kailan po kayo unang nangisda sa Scarborough Shoal? (*When was your first time to fish at Scarborough Shoal?*)
- A5: Noon pong 1994. Pero ang pamilya ko po ay nangingisda na sa Scarborough Shoal simula pa po noong 1982. Ang nag-umpisa pong mangisda doon ay ang tatay ko (Primitivo Legaspi, Sr.), na itinuloy po ng aking nakakatandang kapatid at pagkatapos noon ay ako po naman. (*In 1994. But my family was already fishing at Scarborough Shoal as early as 1982. My father started it, then my older brother took over, after which it was passed on to me.*)
- Q6: Ilan at ano pong klaseng bangka ang inyong ginagamit sa pangisingisda sa Scarborough Shoal? (*What kind of boat/s were you using in fishing at Scarborough Shoal?*)
- A6: Mayroon po ako dating 8 pump boat na outrigger na may habang 60 ft at may lapad na 5 ft. Gawa po ito sa kahoy, 3 tons po ang capacity, at ang makina po nito ay 100 horsepower. Pero umuupa pa po ako ng 2 pang maliit na mga bangka. (*Before I*

*had 8 outrigger pump boats 60 ft long and 5 ft wide. It is made of wood, with a capacity of 3 tons, and a 100 horsepower engine. But, I also rent 2 more smaller boats.)*

Q7: *Anu-ano po ang inyong mga kagamitan sa paglalayag? (What were your navigating equipment?)*

A7: *Noon pong una compass lang po ang ginagamit namin pero noong pong 1998 gumamit na po kami ng Global Positioning System. (At first, we only used compass but in 1998 we already used Global Positioning System.)*

Q8: *Gaano po kadami ang inyong mga tripulante? (How large was your crew?)*

A8: *Bawat bangka ko po ay may 3 tripulante. Pero yun pong mga inuupahan ko ay tig-12 na tao. Lahat lahat po ay 48. (Each of my boat had 3 crew members. But in the boats that I hired, there were around 12 each. All in all, there were 48 crew members.)*

Q9: *Saan po kayo mismo nangingisda sa Scarborough Shoal? (Where specifically were you fishing at Scarborough Shoal?)*

A9: *Sa loob po mismo ng Scarborough Shoal at sa paligid po nito. (Inside Scarborough Shoal and its surrounding.)*

Q10: *Gaano po kayo kadalas mangisda sa Scarborough Shoal? (How often were you fishing at Scarborough Shoal?)*

A10: *Nangingisda po kami doon mula Pebrero hanggang Abril ng bawat taon. (We fished there from February until April of the year)*

Q11: *Bakit po mula Pebrero hanggang Abril? (Why from February until April?)*

A11: *Kasi kami po ay nangingisda sa deep sea malapit-lapit din sa Scarborough Shoal mula Mayo hanggang Enero. (Because from May until January we were in deep sea fishing in areas near Scarborough Shoal.)*

- Q12: Ano po ang paraan ng pangangisda ninyo sa Scarborough Shoal? (*What method of fishing did you use at Scarborough Shoal?*)
- A12: Gumagamit po kami ng pana at lambat. (*We were using spear and net.*)
- Q13: Ano pong uri ng mga isda ang nahuhuli ninyo sa Scarborough Shoal? (*What species of fish were you able to catch at Scarborough Shoal?*)
- A13: Mga isdang bato po, yun pong mga mamamahalin, kagaya ng loro, tarian, lapu-lapu, at talakitok. (*Those fish which dwell on rocks, those which are expensive like parrot fish, unicorn, grouper, jack fish.*)
- Q14: Magkano po ninyo naibebenta ang mga isdang ito? (*For how much were you able to sell these fish?*)
- A14: Naibebenta namin sila sa magandang presyo dahil mamahalin po ang mga isda na yun. (*We were able to sell them at a good price because those fish are expensive.*)
- Q15: Paano ninyo po isinasagawa ang pangangisda sa Scarborough Shoal? (*How did you conduct your fishing activities at Scarborough Shoal?*)
- A15: Noong una po, mga 1994-2004, isang bangka pa lang po ang gamit ko sa pangangisda sa loob at sa paligid ng Scarborough Shoal. Nakakahuli po kami ng halos 1 toneladang isda. Pero kalaunan po, noong 2004, lumaki na po ang operasyon namin at gumamit na po kami ng 8 bangka at umaarkila pa po kami ng 2 maliit. Yung 2 maliit, yun po yung ginagamit ng mga namamana ng isda. Yung mga malaking bangka po doon ikinakarga ang mga huli. Kapag malapit nang mapuno yung malaking bangka na naglalaman ng halos 3 tonelada, raradyo po sa pampang. Yun pong malaking bangkang nasa pampang aalis naman po papunta sa Scarborough at may dala po itong mga pangangailangan ng mga mangangisda tulad ng mga pagkain, tubig, yelo, at gasolina. (*At first, from 1994-2004, we used only one boat in fishing on and around Scarborough Shoal. We can catch almost 1 ton of fish. Later on, or in 2004, we expanded and used 8 boats, and we have to hire another 2 small boats. The 2 small boats are used by the fishermen who are catching fish through spear. Then, the catch will be loaded on the large*)

*boat and when it will be near full, they will radio to the shore. The large boat on the shore will sail to Scarborough and it is loaded with supplies like food, water, ice, and gasoline.)*

Q16: Tinawag din pong Panatag ang Scarborough Shoal, bakit po? *(Scarborough Shoal is also called Panatag, why do you think so?)*

A16: Kasi po yan po yung sinisilungan ng mga mangingisda kapag may bagyo o masama ang panahon. Kasi po sa loob po ng Scarborough, panatag lang po ang dagat kahit may bagyo. *(Because if the fishermen encounter a storm while on a fishing expedition, they can take refuge there. Inside Scarborough, the waves are not that big even if there is a typhoon.)*

Q17: Gaano po kayo kadalas mangisda sa Scarborough Shoal? *(How often were you fishing at Scarborough Shoal?)*

A17: Humigit kumulang nakaka-20 biyahe po kami sa loob ng mga buwan mula Pebrero hanggang Abril. Kasi nakakapuno po kami ng isang malaking bangka na naglalaman ng 3 tonelada sa loob lamang ng 3 o 4 na araw. *(We have more or less 20 trips within the months of February until April because we can fill a large boat with a capacity of 3 tons in just a matter of 3 or 4 days.)*

Q18: Mayroon po bang ibang mga lahi kayong nakakasalamuha sa pangangisda sa Scarborough Shoal? *(Have you encountered other nationalities fishing at Scarborough Shoal?)*

A18: Meron po, mga Tsino, taga-Vietnam, at taga-Taiwan. *(Yes, Chinese, Vietnamese, and Taiwanese.)*

Q19: Ano po ang uri ng mga sasakyang pandagat ang gamit ng mga dayuhan? *(What kind of vessel are the foreigners using?)*

A19: Halos pare-pareho po ang laki ng mga lantsa nila na gawa sa kahoy. May haba po itong 120 ft at lapad na 18 ft. *(Their large boats are almost of the same size. These are 120 ft long and 18 ft wide.)*

Q20: Anong uri ng mga lamang dagat ang kinukuha nila sa Scarborough Shoal? *(What kind of marine resources are they harvesting at Scarborough Shoal?)*

- A20: Ang madalas pong hinuhuli ng mga Tsino ay mga igat, korales, taklobo, at pawikan. Ang mga Taiwanese naman po ay isda lang, pero bihira lang po sila dun. Samantalang ang mga Vietnamese naman po ay pugita ang pakay. *(The Chinese catch eels, corals, giant clams, and sea turtles. The Taiwanese just catch fish, but they seldom go there. While the Vietnamese are catching octopus.)*
- Q21: Noon pong nangingisda kayo sa Scarborough, may mga otoridad po ba ng Pilipinas na nakikita at namamahala sa lugar? *(When you were fishing in Scarborough, can you see Philippine authorities administering the place?)*
- A21: Opo, may Philippine Navy po. *(Yes, Philippine Navy.)*
- Q22: Ano po ang ginagawa ng Philippine Navy sa Scarborough at paligid nito? *(What are the Philippine Navy doing at Scarborough and its surroundings.)*
- A22: Nagpapatrolya po at saka po nagtitingin po ng mga lisensya ng mga mangingisda. *(They are patrolling and checking for fishermen's license.)*
- Q23: Nabanggit nyo po ang lisensya, anu-ano po ang mga lisensya ang kailangan para mangisda at saan ninyo po ito kinukuha? *(You mentioned license, what kind of licenses do you need to fish and where do you secure this?)*
- A23: Yun pong mga bangka naming mababa sa 3 tonelada ang kapasidad ay sa mga lokal na pamahalaan at yun naman pong mas mataas ay sa Maritime Industry Administration. At saka po yung lisensya po namin bilang mangingisda ay sa lokal na pamahalaan din. *(We obtain license for those boats with gross tonnage of less than 3 tons from the local government while those with more than 3 tons, we get that from the Maritime Industry Administration. And we get our fishermen's license also from the local government.)*
- Q24: Kailan po kayo pinakialaman ng mga Tsinong Bantay Dagat sa pangangisda ninyo sa Scarborough Shoal? *(When did the Chinese Coast Guard interrupt with your fishing activities at Scarborough Shoal?)*
- A24: Noon pong March 2012. *(In March 2012.)*

- Q25: Paano po pinakikialaman ng mga Tsinong Bantay Dagat ang inyong pangingsda sa Scarborough Shoal? (*How did the Chinese Coast Guard interrupt your fishing activities at Scarborough Shoal?*)
- A25: Pinagbabawalan na po nila kaming mangisda sa Scarborough Shoal at sa paligid nito. Binubomba po nila kami ng tubig para itaboy. (*They are prohibiting us to fish at the Scarborough Shoal and its surrounding. They were using water cannons to ward us off.*)
- Q26: Ano po ang ginawa nyo? (*What did you do?*)
- A26: Noong una po, sinusubukan po naming lumusot at mangisda pa rin sa Scarborough Shoal. Pero kalaunan ay tumigil na po kami kasi lalo na pong humigpit ang pagbantay ng mga Tsinong Bantay Dagat. (*At first, we tried to get through the Scarborough Shoal and fish there. But later on, we stopped because the Chinese Coast Guard became stricter.*)
- Q27: Pagkatapos po lumitaw ng mga Tsinong Bantay Dagat mayroon pa rin po bang mga mangingisdang Pilipino na pinapayagan ng mga Tsinong Bantay Dagat na mangisda sa Scarborough Shoal? (*When the Chinese Coast Guard appeared in Scarborough Shoal, do they allow Filipino fishermen to fish there?*)
- A27: Wala na po. Pero noon pong February hanggang March 2014 pansamantala po nilang pinapasok ang mga mangingisdang Pilipino sa Scarborough Shoal. Bigla po noong Abril 2014, itinaboy po ulit nila. Noon nga pong May o June 2014 hinarass po nila yung mga mangingisdang Pilipino sa pamamagitan ng water cannon, sound blare, at may pagkakataon nga po na may lalapit sa amin na may mga dala pa silang baril. (*None. But in February to March 2014, they temporarily let fishermen in at Scarborough Shoal. But suddenly in April 2014, they ward us off again. In May or June 2014, they harassed Filipino fishermen through water cannon, sound blare, and there were times that they have a gun when they came near us.*)
- Q28: Ano po ang naging epekto sa inyo ng pagbabawal ng mga Tsinong Bantay Dagat sa pangingsda sa Scarborough Shoal? (*What is the effect on you when the Chinese Coast Guard banned fishing in Scarborough Shoal?*)
- A28: Napakalaki po ng epekto nito sa kabuhayan namin. Halos 60 porsyento po ang nawala sa kinikita ko sa pangingsda sa loob ng isang taon. Kaya nga po, sa walong bangka ko po, isa na

*Judicial Affidavit of Jowe P. Legaspi*

lang po ang natira dahil po yung iba ay ipinagbili ko na para po makabayad sa mga utang. *(It has a big effect on our livelihood. Almost 60 percent of our annual income was gone. That is why, of my eight boats only one is remaining because I have to sell them to pay for my debts.)*

Q29: Kung mapapagbigyan kayong muli pong makapangisda sa Scarborough, gugustuhin ninyo pa rin po ba? *(If you will be given the chance to fish at Scarborough, will you grab it?)*

A29: Opo. Kasi po napakalaking tulong po ng Scarborough sa kabuhayan namin at sa ekonomiya ng aming bayan. *(Yes, because it is really a big help in our livelihood and to the economy of our town.)*

*Judicial Affidavit of Jowe P. Legaspi*

BILANG KATUNAYAN, ako ay lumalagda ngayong ika-12 ng Nobyembre 2015, sa Infanta, Pangasinan, Pilipinas, para patunayan ang katotohanan ng aking mga salaysay. Ako ay nagpapatunay na sinagot ko lahat ng mga itinanong sa akin dito, nang may kamalayan na ginagawa ko ito matapos manumpa, at na maaring may kriminal na pananagutan para sa pagsasalaysay ng walang katotohanan. (*IN WITNESS WHEREOF, I have hereunto affixed my signature on this 12th day of November 2015, in Infanta, Pangasinan, Philippines, to prove the truthfulness of all my statements here. I hereby attest that I answered all the questions asked of me herein, fully conscious that I have done so under oath, and that I may face criminal liability for false testimony or perjury.*)

  
**JOWE P. LEGASPI**  
Affiant

*Judicial Affidavit of Jowe P. Legaspi*

REPUBLIC OF THE PHILIPPINES )  
MUNICIPALITY OF INFANTA )S.S.  
PROVINCE OF PANGASINAN )

Before me, a government official authorized to administer oath,  
personally appeared:

<u>Name</u>	<u>Identification No.</u>	<u>Place/ Date of Issue</u>
Jowe P. Legaspi	Driver's License No. A07-90-011484	LTO-Lingayen/July 22, 2013

who was identified by me through competent evidence of identity to be the same person who presented, signed the foregoing instrument before me, and who took an oath before me as to such instrument.

Witness my hand and seal this 12<sup>th</sup> day of November 2015.

  
**HERMES L. OCAMPO**  
Administering Officer

PHILIPPINES  
MILLENNIUM

REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF TRANSPORTATION & COMMUNICATIONS  
LAND TRANSPORTATION OFFICE  
EAST AVE. QUEZON CITY

PROFESSIONAL

LAST NAME FIRST NAME MIDDLE NAME  
**LEGASPI, JOWE PALUAN**

ADDRESS (NO. STREET, CITY MUN., PROVINCE)  
CATO INFANTA PANGASINAN

BIRTH DATE	SEX	HT. (cm)	WT. (kg)	NATIONALITY
1970-07-04	M	165	54	FIL
RESTRICTIONS	CONDITIONS	AGY	EXPIRES	
123		A09	2016-07-04	

LICENSE NO. 107-90-011181

VIRGINIA P. TORRES  
ASST. SECRETARY

SIGNATURE OF LICENSEE



**SWORN ATTESTATION**

I, **HERMES L. OCAMPO**, of legal age, and with office address at the Office of the Solicitor General, 134 Amorsolo St., Legaspi Village, Makati City, after having been sworn in accordance with law, hereby depose and state:

1. I am an Assistant Solicitor General from the Office of the Office of the Solicitor General, counsel for the Republic of the Philippines.
  
2. On November 12, 2015, I conducted the examination of Mr. Jowe P. Legaspi in Filipino, a language known to the witness, at Cato, Infanta, Pangasinan, Philippines which shall serve as Mr. Legaspi's direct testimony in PCA Case No. 2013-19, in the matter of the Arbitration between the Republic of the Philippines and the People's Republic of China, which is pending before an Arbitral Tribunal constituted under Annex VII to the 1982 United Nations Convention on the Law of the Sea.
  
3. I have faithfully recorded or caused to be recorded the questions I asked and the corresponding answers that Mr. Legaspi gave me.
  
4. During the said examination, neither I nor any other person assisted or coached Mr. Legaspi regarding the latter's answers.

IN WITNESS WHEREOF, I hereby sign this Sworn Attestation this 12<sup>th</sup> day of November 2015 in Infanta, Pangasinan, Philippines.

  
**HERMES L. OCAMPO**  
Affiant

Judicial Affidavit of Jowe P. Legaspi

REPUBLIC OF THE PHILIPPINES )  
MUNICIPALITY OF INFANTA )S.S.  
PROVINCE OF PANGASINAN )

Before me, a government official authorized to administer oath,  
personally appeared:

<u>Name</u>	<u>Identification No.</u>	<u>Place/ Date of Issue</u>
Hermes L. Ocampo	OSG ID No. 1996-06002	Makati, December 2014

who was identified by me through competent evidence of identity to be the same person who presented, signed the foregoing instrument before me, and who took an oath before me as to such instrument.

Witness my hand and seal this 12<sup>th</sup> day of November 2015.

  
**RAYMUND I. RIGODON**  
Administering Officer



**Annex 697**

*Affidavit* of Mr. Crispen Talatagod (12 Nov. 2015)



PCA Case No. 2013-19

IN THE MATTER OF AN ARBITRATION

- before -

AN ARBITRAL TRIBUNAL CONSTITUTED UNDER ANNEX VII  
TO THE 1982 UNITED NATIONS CONVENTION  
ON THE LAW OF THE SEA

- between -

THE REPUBLIC OF THE PHILIPPINES

- and -

THE PEOPLE'S REPUBLIC OF CHINA

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**JUDICIAL AFFIDAVIT OF  
CRISPEN D. TALATAGOD**

**PURPOSE:** The testimony of the witness, Mr. Crispén D. Talatagod, is offered to prove the allegations in the Amended Statement of Claim and in support of the prayers therein. In particular, the offer is made to prove that the Scarborough Shoal is a traditional fishing ground of Filipino fishermen. The testimony is also offered to prove other matters related thereto.

Ako si **CRISPEN D. TALATAGOD**, Filipino, 75 taong gulang, nakatira sa Cato, Infanta, Pangasinan, Pilipinas, pagkatapos manumpa ng naaayon sa batas, ay malayang nagsasabi at sumasagot ng buong katotohanan sa mga tanong ni Assistant Solicitor General Hermes L. Ocampo ng Tanggapan ng Taga-usig Panlahat, sa Infanta, Pangasinan, Pilipinas. (*I, **CRISPEN D. TALATAGOD**, Filipino, 75 years old, and a resident of Cato, Infanta, Pangasinan, Philippines, after having been duly sworn in accordance with law, hereby willingly and freely answer the questions propounded by Assistant Solicitor General Hermes L. Ocampo of the Office of the Solicitor General, at Infanta, Pangasinan, Philippines*):

Q1: Ano ang iyong kasalukuyang trabaho? (*What is your present occupation?*)

A1: Wala na po akong trabaho. Nagretiro na ako sa pangingisda. (*I don't work anymore. I have retired from fishing.*)

*Judicial Affidavit of Crispen D. Talatagod*

- Q2: Kailan po kayo nagretiro sa pangngisda? (*When did you retire from fishing?*)
- A2: Nagretiro ako sa pangngisda noong nakaraang December 2014. (*I retired from fishing last December 2014.*)
- Q3: Bago po kayo nagretiro, kailan kayo nagsimulang mangisda? (*Before you retired, when did you start working as a fisherman?*)
- A3: Nagsimula akong mangisda noong bata pa ako, nang ako ay mga 14 taong gulang. Tinuruan ako ng tatay kong mangisda dahil ang hanapbuhay niya noon ay pangngisda rin. (*I started fishing when I was still young, at about the age of 14. My father taught me how to fish because this was his means of livelihood.*)
- Q4: Nabanggit mo na ang tatay mo ay tinuruan kang mangisda, anong paraan ng pangngisda ang itinuro ng tatay mo sa iyo? (*You mentioned that your father taught you to fish, what method of fishing did your father teach you?*)
- A4: Tinuruan ako ng tatay kong manghuli ng isda sa pamamagitan ng pana (*spearfishing*) tuwing gabi. Sa ganitong pamamaraan na rin ako nangisda hanggang sa panahong tumigil akong mangisda. (*My father taught me the method of spearfishing during nighttime. I used this method until I stopped fishing.*)
- Q5: Saan ka kadalasan nangingisda noong panahong ito? (*Where do you usually fish at that time?*)
- A5: Noong nagsimula akong matutong mangisda, nakatira pa ako sa Pangangan, Calape, Bohol kaya doon na ako nangingisda. Malapit lang sa baybayin ako nangingisda noon dahil wala pa akong gamit na bangka. Nang ako ay lumaki, nanirahan ako sa Bislig, Surigao del Sur kung saan ako ay nakapag-asawa. Matapos kong lumipat sa nasabing lugar, ako ay inupahan ni Primitivo Legaspi, Sr. upang manghuli ng isda. Kaya naman ako ay lumipat dito sa Cato, Infanta, Pangasinan noong mga taong 1980 para mangisda. (*When I was just starting, I was residing in Pangangan, Calape Bohol so that was where I usually fished. Back then, I was only fishing near the coastline because I had no boat. After I got older, I moved to Bislig, Surigao del Sur where I got married. It was at that time that Primitivo Legaspi, Sr. hired me to work as a fisherman. For*

*this reason, I moved to Cato, Infanta, Pangasinan in 1980 to work as a fisherman.)*

Q6: Ano ang nangyari matapos mong lumipat dito sa Infanta, Pangasinan? *(What happened after you transferred here in Infanta, Pangasinan?)*

A6: Sa simula, nangingisda kami malapit sa baybayin ng Cato, Infanta, Pangasinan. Nang maglaon, naging matumal na ang mga isdang nahuhuli namin. Nalaman namin sa ibang mga mangingingisda dito na mas maraming isda sa Scarborough Shoal, kaya naman kami ay nagpunta roon. *(At first, we fished near the coast of Cato, Infanta, Pangasinan. But after some time, the catch was not as plenty. We were told by other fishermen that there were plenty of fish in Scarborough Shoal, so we went there.)*

Q7: Gaano ka katagal nangisda sa Scarborough Shoal? *(How long did you fish at Scarborough Shoal?)*

A7: Nagsimula kaming magpunta sa Scarborough Shoal noong 1982 at simula noon, doon na ako bumabalik balik upang mangisda dahil sagana ang mga isda sa lugar na iyon. Kung maayos ang panahon, linggo-linggo kaming bumabalik doon para mangisda sa loob mismo ng Scarborough Shoal at sa paligid nito. Sa panahon na ito, may mga nakakasalamuha kaming mga mangingingisda mula sa iba't ibang bansa tulad ng Vietnam, Tsina, at Hong Kong. *(I started fishing at Scarborough Shoal in 1982, and since then, I regularly return to this place to fish because there are plenty of fish in the area. If the weather permits, we go there every week to fish inside the Scarborough Shoal itself and its surrounding areas. During this period, we were able to interact with fisherfolk from other countries such as Vietnam, China, and Hong Kong.)*

Q8: Maari mo bang ilarawan ang bangka at gamit na dala ng mga banyagang mangingingisda na ito? *(Please describe the boats and equipment that these foreign fisherfolk use in Scarborough Shoal?)*

A8: Ang bangkang gamit ng mga Tsino ay lantsa na walang katig. Mga 5 lantsa ng Tsino ang dumarating at sunod-sunod na pumupunta sa Scarborough Shoal, tapos may higit sa 50 maliliit na bangka ang dala ng mga lantsa na ito. Ang mga taga-Vietnam at Hong Kong na mangingingisda ay may dala rin na

malaking lantsa na kasing dami ng sa mga Tsino. *(The Chinese use a large motorboat with no outrigger. There are about 5 motorboats that arrive in Scarborough Shoal, with more than 50 small boats. The Vietnamese and Hong Kong fishermen also use large motorboats that are as much as that of the Chinese.)*

Q9: Anong paaran ng pangangisda ang ginagamit ng mga banyagang mangangisda? *(What method of fishing do these foreign fisherfolk use?)*

A9: Ang mga Tsino ay sumisisid para makakuha ng mga korals gamit ang piko. Gumagamit din sila ng malalaking lambat. Samantalang ang mga taga-Vietnam ay gumagamit ng pana katulad namin, ngunit sila ay may *compressor* sa pagsisid. Ang mga taga-Hong Kong ay gumagamit ng kawil. *(The Chinese dive for corals using a pickaxe. They also use large nets. On the other hand, the Vietnamese also use the method of spearfishing like us, but they have a compressor while diving. The fishermen from Hong Kong use the method of longline fishing.)*

Q10: Anong uri ng mga isda ang hinuhuli nila sa Scarborough Shoal? *(What kind of fish do they catch in Scarborough Shoal?)*

A10: Ang mga Tsino ay mahilig humuli ng mga pawikan, pating at taklobo, at katulad nga ng sinabi ko kanina, kumukuha sila ng mga koral. Ang mga taga-Vietnam at Hong Kong ay humuhuli ng iba't ibang isda, tulad ng loro, palos, lapu-lapu at tarian. *(The Chinese liked catching tortoises, sharks, and giant clams, and as I said before, they take the corals. The Vietnamese and Hong Kong fishermen were catching a variety of fish like the parrot fish, eel, grouper and unicorn fish.)*

Q11: Ano ang ginagawa ninyo pag nakikita ninyo ang mga banyagang mangangisda? *(What do you do when you see these foreign fishermen?)*

A11: Wala naman. Kami ay nagpapatuloy sa pangangisda kahit sila ay nandoon din. Minsan ay nakikipagpalitan kami ng pagkain sa isa't isa. *(Nothing. We continue fishing even if they are in the area. We sometimes exchange our food supplies with each other.)*

Q12: Bukod sa mga banyagang mangangisda, ano pang mga sasakyang pang-dagat ang iyong nakita sa Scarborough Shoal?

*(Aside from these foreign fisherfolk, what other vessels did you see in Scarborough Shoal?)*

- A12: Dati ay nakakakita ako ng mga sasakyang pang-dagat ng Hukbong Dagat ng Pilipinas. Nandoon sila nang mga 1 o 2 araw sa Scarborough Shoal. *(I saw a vessel of the Philippine Navy back then. They stay there for about 1 or 2 days in Scarborough Shoal.)*
- Q13: Ano ang mga ginawa ng mga sasakyang pang-dagat na ito sa Scarborough Shoal? *(What activities did these vessels undertake in Scarborough Shoal?)*
- A13: Umiikot-ikot lang sila sa Scarborough Shoal. Pinapabayaan nila kaming mangisda, kahit yung mga banyagang mangingisda. *(They just roam around the Scarborough Shoal. They did not interfere with our fishing activities, even the foreign fisherfolk.)*
- Q14: Bago ka namalaot sa Scarborough Shoal noon, anong permiso ang hinigi mo sa lokal na pamahalaan? *(Before you went fishing in Scarborough Shoal, what permits did you obtain from the local government?)*
- A14: Wala. Kahit mula sa barangay namin, walang hinihinging permiso. *(None. Even our barangay [village] does not require a permit.)*
- Q15: Ano pang uri ng permiso at lisensya ang iyong kinuha bago ka namalaot sa Scarborough Shoal? Kailan mo ito kinukuha? *(What other permits and licenses did you obtain before fishing in Scarborough Shoal? When did you procure these licenses?)*
- A15: Nirehistro ko sa Bantay Dagat ng Pilipinas ang aking bangka. Ito ay pinarerehistro taon taon. *(I registered my boat with the Philippine Coast Guard. This registration is renewed every year.)*
- Q16: Paano mo kinuha ang mga permiso at lisensyang ito? *(How did you obtain these permits and licenses?)*
- A16: Dinala ko lang ang kopya ng sertipikasyon ng barangay na nagsasabing sa akin ang nasabing bangka. Matapos nito, binigyan nila ako ng permiso na may *Coast Guard Number* at ito ay ipinipintura sa bangkang nirehistro. *(I just brought a copy*

*of the barangay [village] certification stating that the boat is mine. After this, they gave me a permit with a Coast Guard Number that is painted on the registered boat.)*

Q17: Iyong nabanggit na namamalaot ka sa Scarborough Shoal ng 1 linggo bago ka bumalik sa baybayin, ano ang ginagamit mong bangka sa tuwing pumupunta ka doon? *(You mentioned that you fish in Scarborough Shoal for 1 week before returning, what kind of boat do you use whenever you go there?)*

A17: Noong ako ay nagsisimula palang ng mga taong 1982, ang aking bangka ay maliit lang. Ang haba nito ay 30 piye at mga 35 pulgada ang lapad. Yari ito sa kahoy, at may makina na 16 horsepower. Nang mga taong 2002, naka-ipon ako at nakapagpagawa ng malaking bangka. Ang aking mas malaking bangka ay may katig, at sumusukat na 60 piye ang haba, at 5 piye ang lapad. Ito ay may kapasidad na tatlong tonelada, at may makina na isang daan na horsepower. *(When I just started back in 1982, my boat was only small. It was 30 feet long and 35 inches wide. It was made of wood, and equipped with a 16 horsepower motor. At about the year 2002, I was able to save enough money to have a bigger boat made. My larger boat then was a pump boat with outrigger, measuring 60 feet in length, and 5 feet in width. Its weight capacity is 3 tons and equipped with a 100 horsepower motor.)*

Q18: Anong gamit ang mga dala mo bawat pamamalaot mo sa Scarborough Shoal? *(What do you bring with you whenever you fish in Scarborough Shoal?)*

A18: Ako ay nagdadala ng pagkain, bigas, krudo, yelo para mapanatiling sariwa ang mga isdang nahuli, gasolina, at mga gamit pangisda. Ang aking pana ay gawa sa stainless na kawad, at may hawakang yari sa kahoy. Ang gatilyo nito ay gumanaga gamit ang goma. *(I bring food, rice, crude oil, ice to keep the fish fresh, gasoline, and fishing equipment. My spear is made of a stainless rod and a wooden handle. It is triggered by a rubber band.)*

Q19: Sino ang iyong mga kasama tuwing pumupunta ka sa Scarborough Shoal? *(Who are your companions when you go to Scarborough Shoal?)*

A19: Kasama ko ang mga tauhan kong mangingisda rin. Noong maliit pa ang aking bangka, 6 lang ang kasya doon. Nang

makapagpagawa na ako ng malaking bangka, may kasama akong mga 12 mangingisda. *(My companions were fishermen as well. When my boat was smaller, only 6 people could fit in it. After I was able to have a bigger boat made, I was accompanied by 12 fishermen.)*

Q20: Ano ang sistema ng inyong pangingsda sa Scarborough Shoal? *(What is your system in catching fish at Scarborough Shoal?)*

A20: Pagdating namin sa Scarborough Shoal, mag-uumpisa na kaming mangisda para mapuno naming ang aming bangka. Salit salit kami ng mga kasama kong sumisid at pumana ng isda. Napupuno naming ang dati kong maliit na bangka sa loob ng mga 3 araw, habang ang aking mas malaking bangka ay napupuno sa loob ng 1 linggo. Matapos mapuno ng bangka, babalik na kami sa Cata, Infanta, Pangasinan para maibenta ang aming huli. Bumabalik balik kami sa Scarborough Shoal sa mga buwan ng Pebrero hanggang Mayo or Hunyo. Pag natapos na ang tag-ulan sa bandang Oktubre, babalik na ulit kami ng Scarborough Shoal hanggang Disyembre, o hangga't dumating ang hanging amihan. *(Once we arrive in Scarborough Shoal, we start fishing to fill our boats. We take turns diving and spearfishing. We are able to fill my small boat back then for only 3 days, while my larger boat takes about 1 week to fill. After filling the boats with our catch, we return to Cata, Infanta, Pangasinan to sell it. We regularly return to Scarborough Shoal during the months of February until May or June. After the rainy season ends at around the month of October, we would again return to Scarborough Shoal until December, or until the northeast winds arrive.)*

Q21: Ano ang ginagawa mo pag may bagyo o kaya ay pumangit ang panahon, at nakapalaot ka na sa Scarborough Shoal? *(What do you do if you set out for Scarborough Shoal and a storm arrives, or the weather worsens?)*

A21: Kapag inabutan kami ng bagyo o masamang panahon sa Scarborough Shoal, papasok kami sa loob nito dahil ligtas ka sa malalakas na alon doon. *(If there is a storm or the weather worsens while we're in Scarborough Shoal, we take shelter inside it because we're safe from the strong waves there.)*

Q22: Nabanggit mo na maraming mga isda sa Scarborough Shoal, anong uri ng mga isda ang iyong hinuhuli sa Scarborough Shoal? *(You mentioned that there are plenty of fish in*

*Scarborough Shoal, what kind of fish do you usually catch in Scarborough Shoal?)*

A22: Iba't ibang klaseng isda ang aking hinuhuli tulad ng loro o "molmol" sa Bisaya, palos, talakitok, lapu-lapu, tarian, kising-kising at pugita. Nang ako ay gumagamit pa nung maliit na bangka, ako ay nakakahuli ng 200 kilong isda. Noong lumaki na ang aking bangka, ang aking huli ay umaabot ng 1,500 kilo *(I catch a variety of fish like the parrot fish or "molmol" in Visayan, eels, cavallas, groupers, unicorn fish, lobsters and octopuses. When I was still using my small fishing boat, I was able to catch 200 kilos of fish. For my larger boat, I can bring home a catch weighing a total amount of 1,500 kilos.)*

Q23: Magkano mo naibebenta ang mga isdang ito? *(How much do you sell these fish for?)*

A23: Binebenta namin ang mga isda sa mga mamimili sa Cato, Infanta, Pangasinan. Sila naman ang nagdadala nito sa Navotas at Malabon. Depende sa klase ng isda, umaabot ang aming benta sa 50 piso bawat kilo. *(We sell the fish to the buyers in Cato, Infanta, Pangasinan. These buyers, in turn, sell our catch in Navotas and Malabon. Depending on the kind of fish, our earnings can be as much as Php50 per kilo.)*

Q24: Kailan ka tumigil mangisda doon sa Scarborough Shoal? *(When did you stop fishing in Scarborough Shoal?)*

A24: Tumigil ako noong taong 2012 dahil pinagbawalan na kaming mangisda doon ng mga Tsino. Naalala ko na noong bumalik kami sa Scarborough Shoal, may sumalubong sa amin na isang miyembro ng Tsinong Bantay Dagat na may bitbit na armas. Sinabi nila sa amin na sa kanila daw ang Scarborough Shoal at pinigilan na kami mangisda doon. Nagulat kami at natakot. Nang aming sinubukan na magtago at hintayin sumapit ang gabi bago simulang mangisda, kami pala ay inabangan ng mga Tsino. Pinagbawalan nila ulit kaming mangisda. Simula noon, hindi na ako nakabalik doon. *(I stopped fishing in 2012 because we were prohibited from fishing there by the Chinese. I remember that when my companions and I went to Scarborough Shoal, we were met by an armed member of Chinese Coast Guard. The guard told us that they own Scarborough Shoal and he prevented us from fishing there. We were surprised and afraid at that time. We tried to hide and wait for nighttime before starting to fish, but the Chinese were able to anticipate*

*this. Again, they prohibited us from fishing in Scarborough Shoal. I was not able to return since then.)*

Q25: Sino na lang ang nakakapangisda sa Scarborough Shoal? (*Who are now able to fish in Scarborough Shoal?*)

A25: Wala nang mga nangingisda doon. Nang sinubukan kong bumalik, kami ay tinataboy ng mga armadong Tsino na miyembro ng kanilang Bantay Dagat. Sa aking tantsa, may mga 3 malalaking bangka ang mga Tsino doon. (*No one fishes there anymore. When we tried to go back, we were driven away by armed members of the Chinese Coast Guard. In my estimate, there are about 3 large Chinese vessels there.*)

Q26: Matapos kang pigilan mangisda sa Scarborough Shoal, saan ka na nangingisda? (*After you were prohibited from fishing in Scarborough Shoal, where did you catch fish?*)

A26: Dahil matanda na ako, sa malapit na lang ako nangingisda. Kamakailan lang, nagretiro na ako at ibinenta ang aking bangka. (*I fish in the nearby waters because of my old age. I recently retired from fishing and sold my boat.*)

Q27: Paano nito naapektuhan ang iyong hanapbuhay? (*How did this affect your livelihood?*)

A27: Bago ako magretiro at matapos itong mangyari, nangisda na lang ako sa baybaying dagat malapit dito sa Infanta. Kung marami akong nahuhuli, mayroon akong maibebenta. Ngunit kung kaunti lang, ito ay uulamin na lang namin. Kaya naman kung ihahambing sa mga nahuhuli ko noon sa Scarborough Shoal, malaki ang ibinawas nito sa aking kita. Ngunit hindi lang pera ang nawala sa amin kundi kabuhayan din. Nawalan kami ng pagkukuhaan ng pagkain. Noong bukas pa ang Scarborough Shoal, buong taon ay may pagkain kami. Ngayon, hindi na sigurado dahil tsambahan na lang sa paghuhuli ng isda. (*Before I retired and after this incident happened, I fished near the coast of Infanta only. If there are plenty of fish, I sell my catch. But if the catch is few, we don't sell it anymore and eat it instead. This is why my earnings noticeably decreased as compared to the time I was fishing in Scarborough Shoal. But money was not the only thing that was lost; we lost our livelihood as well. Our primary source of food is gone. When Scarborough was still open for fishing, we had food for the*

*Judicial Affidavit of Crispen D. Talatagod*

*whole year. But now, our food supply is unsure because it largely depends on the chance of catching enough fish.)*

*Judicial Affidavit of Crispin D. Talatagod*

BILANG KATUNAYAN, ako ay lumalagda ngayong ika-12 ng Nobyembre 2015, sa Infanta, Pangasinan, Pilipinas, para patunayan ang katotohanan ng aking mga salaysay. Ako ay nagpapatunay na sinagot ko lahat ng mga itinanong sa akin dito, nang may kamalayan na ginagawa ko ito matapos manumpa, at na maaring may kriminal na pananagutan para sa pagsasalaysay ng walang katotohanan. (*IN WITNESS WHEREOF, I have hereunto affixed my signature on this 12<sup>th</sup> day of November 2015, in Infanta, Pangasinan, Philippines, to prove the truthfulness of all my statements here. I hereby attest that I answered all the questions asked of me herein, fully conscious that I have done so under oath, and that I may face criminal liability for false testimony or perjury.*)

*Crispin Talatagod*

**CRISPEN D. TALATAGOD**

Affiant

*Judicial Affidavit of Crispen D. Talatagod*

REPUBLIC OF THE PHILIPPINES )  
MUNICIPALITY OF INFANTA )S.S.  
PROVINCE OF PANGASINAN )

Before me, a government official authorized to administer oath, personally appeared:

<u>Name</u>	<u>Identification No.</u>	<u>Place/ Date of Issue</u>
Crispen D. Talatagod	Senior Citizen ID No. 000991	Infanta, Pangasinan / March 25, 2013

who was identified by me through competent evidence of identity to be the same person who presented, signed the foregoing instrument before me, and who took an oath before me as to such instrument.

Witness my hand and seal this 12<sup>th</sup> day of November 2015.

  
**HERMES L. OCAMPO**  
Administering Officer

Control No. 000991

 *Republic of the Philippines*  
*Office of Senior Citizens Affairs*  
Infanta, Pangasinan



NAME: CRISPEN D. TALATAGOD

ADDRESS: Brgy. CATO, INFANTA, PANG.

02-07-1941/73      M      03-25-2013  
Date of Birth/Age      Sex      Date of Issue

THIS CARD IS NON-TRANSFERABLE AND  
VALID ANYWHERE IN THE COUNTRY

*Crispen D. Talatagod*  
CRISPEN D. TALATAGOD

Printed Name and Signature/ Thumbmark

**SWORN ATTESTATION**

I, **HERMES L. OCAMPO**, of legal age, and with office address at the Office of the Solicitor General, 134 Amorsolo St., Legaspi Village, Makati City, after having been sworn in accordance with law, hereby depose and state:

1. I am an Assistant Solicitor General from the Office of the Office of the Solicitor General, counsel for the Republic of the Philippines.

2. On November 12, 2015, I conducted the examination of Mr. Crispen D. Talatagod in Filipino, a language known to the witness, at Cato, Infanta, Pangasinan, Philippines which shall serve as Mr. Talatagod's direct testimony in PCA Case No. 2013-19, in the matter of the Arbitration between the Republic of the Philippines and the People's Republic of China, which is pending before an Arbitral Tribunal constituted under Annex VII to the 1982 United Nations Convention on the Law of the Sea.

3. I have faithfully recorded or caused to be recorded the questions I asked and the corresponding answers that Mr. Talatagod gave me.

4. During the said examination, neither I nor any other person assisted or coached Mr. Talatagod regarding the latter's answers.

IN WITNESS WHEREOF, I hereby sign this Sworn Attestation this 12<sup>th</sup> day of November 2015 in Infanta, Pangasinan, Philippines.

  
**HERMES L. OCAMPO**  
Affiant

*Judicial Affidavit of Crispen D. Talatagod*

REPUBLIC OF THE PHILIPPINES )  
MUNICIPALITY OF INFANTA )S.S.  
PROVINCE OF PANGASINAN )

Before me, a government official authorized to administer oath,  
personally appeared:

<u>Name</u>	<u>Identification No.</u>	<u>Place/ Date of Issue</u>
Hermes L. Ocampo	OSG ID No. 1996- 06002	Makati City / December 2014

who was identified by me through competent evidence of identity to be the  
same person who presented, signed the foregoing instrument before me, and  
who took an oath before me as to such instrument.

Witness my hand and seal this 12<sup>th</sup> day of November 2015.

  
**RAYMUND I. RIGODON**  
Administering Officer



**Annex 698**

*Affidavit* of Mr. Cecilio Taneo (12 Nov. 2015)



PCA Case No. 2013-19

IN THE MATTER OF AN ARBITRATION

- before -

AN ARBITRAL TRIBUNAL CONSTITUTED UNDER ANNEX VII  
TO THE 1982 UNITED NATIONS CONVENTION  
ON THE LAW OF THE SEA

- between -

THE REPUBLIC OF THE PHILIPPINES

- and -

THE PEOPLE'S REPUBLIC OF CHINA

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**JUDICIAL AFFIDAVIT OF  
CECILIO O. Taneo**

**PURPOSE:** The testimony of the witness, Mr. Cecilio O. Taneo, is offered to prove the allegations in the Amended Statement of Claim and in support of the prayers therein. In particular, the offer is made to prove that the Scarborough Shoal is a traditional fishing ground of Filipino fishermen. The testimony is also offered to prove other matters related thereto.

Ako si **CECILIO O. Taneo**, Filipino, 54 taong gulang, nakatira sa Sitio Matalvis, Barangay Inhobol, Masinloc, Zambales, Pilipinas, pagkatapos manumpa nang ayon sa batas, ay malayang nagsasabi at sumasagot nang buong katotohanan sa mga tanong ni Associate Solicitor Ivan Mark S. Ladores ng Tanggapan ng Taga-usig Panlahat, sa Candelaria, Zambales, Pilipinas (*I, **CECILIO O. Taneo**, Filipino, 54 years old, and a resident of Sitio Matalvis, Barangay Inhobol, Masinloc, Zambales, Philippines, after having been duly sworn in accordance with law, hereby willingly and freely answer the questions propounded by Associate Solicitor Ivan Mark S. Ladores of the Office of the Solicitor General, at Candelaria, Zambales, Philippines*):

**Q1:** Ano ang iyong kasalukuyang trabaho? (*What is your present occupation?*)

**A1:** Ako ay kasalukuyang namamasukan bilang mangingisda. (*I am currently a fisherman.*)

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*Judicial Affidavit of Cecilio O. Taneo*

- Q2: Kailan ka nagsimulang magtrabaho bilang mangingisda? (*When did you start working as a fisherman?*)
- A2: Nagsimula akong magtrabaho bilang mangingisda noong 1973. (*I started fishing in 1973.*)
- Q3: Saan kayo nagsimulang mangisda? (*Where did you start catching fish?*)
- A3: Sa Lapu-lapu City, Cebu. (*In Lapu-lapu City, Cebu.*)
- Q4: Kailan ka lumipat sa Masinloc, Zambales mula Lapu-lapu City, Cebu? (*When did you transfer to Masinloc, Zambales, from Lapu-lapu City, Cebu?*)
- A4: Ako at ang aking pamilya ay lumipat sa Masinloc, Zambales mula Lapu-lapu City, Cebu noong 1987. (*My family transferred to Masinloc, Zambales, from Lapu-lapu City, Cebu in 1987.*)
- Q5: Pagkatapos mong lumipat sa Masinloc, Zambales, saan ka madalas nangingisda? (*After your transfer to Masinloc, Zambales, where do you usually catch fish?*)
- A5: Madalas kaming nangingisda sa dagat sa Masinloc, Candelaria, at Palauig, Zambales. (*We usually catch fish in Masinloc, Candelaria and Palauig, Zambales.*)
- Q6: Nasubukan mo bang mangisda sa Scarborough Shoal (*Have you tried catching fish in the Scarborough Shoal?*)
- A6: Oo. (*Yes.*)
- Q7: Kailan ka nagsimulang mangisda sa Scarborough Shoal? (*When did you start catching fish in the Scarborough Shoal?*)
- A7: Nangisda ako sa Scarborough Shoal noong 1989. (*I caught fish in the Scarborough Shoal in 1989.*)
- Q8: Paano mo nalaman na maaaring mangisda sa Scarborough Shoal? (*How did you know that you can catch fish in the Scarborough Shoal?*)
-

- A8: Nabanggit ng aking kasamahang mangingisda na maaari akong mangisda sa Scarborough Shoal. *(A fellow fisherfolk advised me to try to catch fish in the Scarborough Shoal.)*
- Q9: Ano ang nagdala sa iyo at naisipan mong mangisda sa Scarborough Shoal? *(What prompted you to catch fish in Scarborough Shoal?)*
- A9: Ako ay inanyayahan ng isang negosyante na sumama sa pangangisda gamit ang kanyang bangka, kasama ang humigit kumulang na 35 katao. *(I was recruited by a businessman to join a group composed of more or less 35 persons to catch fish in the Scarborough Shoal.)*
- Q10: Gaano kayo katagal sa Scarborough Shoal upang mangisda? *(How long did you stay in the Scarborough Shoal to catch fish?)*
- A10: Kami ay nanatili sa Scarborough Shoal nang dalawang linggo. *(Our group stayed in the Scarborough Shoal for two weeks.)*
- Q11: Paano ang sistema ng panghuhuli sa Scarborough Shoal? *(How did you go about catching fish in the Scarborough Shoal?)*
- A11: Kami ay 6 na mangingisda sa isang grupo. Nagsimula kami manghuli sa oras ng alas-otso ng umaga at natapos na kami sa hapon. Gumamit kami ng pana bilang panghuli. Madalas kaming lumalangoy sa dagat dala ang aming mga pana. *(Each group was composed of 6 fishermen. We started to catch fish at eight o'clock in the morning and ended in the afternoon. We used spears to catch fish. Usually, we swam while carrying the spear.)*
- Q12: Ano ang mga nahuli ninyong isda sa Scarborough Shoal? *(What kinds of fish did you catch in the Scarborough Shoal?)*
- A12: Iba-iba ang nahuli namin doon, katulad ng maya-maya, lapulapu, at lobster. *(We caught various kinds of marine resources, such as maya-maya, lapu-lapu and lobster.)*
- Q13: Gaano karami ang isdang nahuli ninyo sa isang araw? *(How many kilos of fish did you catch in one day?)*

- A13: 600-700 kilos ng iba-ibang klaseng isda ang nahuli ng aming group sa loob ng isang araw. (*Our group caught 600 to 700 kilos of marine resources in one day.*)
- Q14: Sagana ba sa yamang dagat ang Scarborough Shoal? (*Are the marine resources in the Scarborough Shoal abundant?*)
- A14: Oo, mas marami ang bilang at mas marami ang uri ng yamang dagat sa Scarborough Shoal, kumpara sa dagat ng Masinloc, Candelaria at Palauig. (*Yes, the quantity and kinds of marine resources in the Scarborough Shoal are more abundant, compared to the seas of Masinloc, Candelaria and Palauig.*)
- Q15: Malaya ba kayong nakapangisda sa Scarborough Shoal sa dalawang linggong iyon? (*Were you able to freely catch fish in the Scarborough Shoal?*)
- A15: Oo, malaya kaming nakapangisda sa Scarborough Shoal. (*Yes, we freely caught fish in the Scarborough Shoal.*)
- Q16: May mga nakita ba kayong ibang tao sa Scarborough Shoal? (*Did you encounter other people in the Scarborough Shoal?*)
- A16: Oo. (*Yes.*)
- Q17: Sino ang mga nakita ninyo sa Scarborough Shoal habang kayo ay naroon? (*Who did you see in the Scarborough Shoal while you were there?*)
- A17: Nakakita kami ng mga Pilipinong mangingisda lulan ng ibang bangka. (*We met Filipino fishermen from other vessels.*)
- Q18: May iba pa ba kayong nakita sa Scarborough Shoal habang kayo ay naroon? (*Who else did you see in the Scarborough Shoal while you were there?*)
- A18: Nakasalubong namin sa Scarborough Shoal ang mga dayuhan tulad ng taga-Taiwan, taga-Vietnam, taga-China. (*We also met Taiwanese, Vietnamese and Chinese in the Scarborough Shoal.*)
-

- Q19: Paano mo mailalarawan ang mga bangkang gamit ng mga dayuhan sa Scarborough Shoal? (*How can you describe the vessels used by the foreigners in the Scarborough Shoal?*)
- A19: Mas malalaki at gawa din sa kahoy ang mga bangka nila. (*The foreigners have larger vessels that are also made of wood.*)
- Q20: Paano mo mailalarawan ang mga ginamit na panghuli ng isda ng mga dayuhan? (*How do you describe the equipment used by the foreigners to catch fish?*)
- A20: Mas makabago ang mga gamit nila. (*The equipment they used are more advanced.*)
- Q21: Paano ang naging pakikitungo ng mga dayuhang ito sa inyo? (*How did these foreigners behave?*)
- A21: Sila ay mukhang takot. Madalas, umiwas silang makipag-ugnayan sa amin, maliban na lang kung may kailangan sila. Nakipagpalitan kami ng alak at sigrailyo. Hindi nila sinubukan ipasok ang barko nila sa loob ng Scarborough Shoal. Sila ay nakapasok sa loob ng Scarborough Shoal gamit ang mas maliit na bangka. (*The foreigners appeared cautious. They avoided communicating with us Filipinos, except when they needed something. We traded cigarettes and alcohol. The vessels of the foreigners did not attempt to go inside the Scarborough Shoal. Instead, the foreigners used smaller boats to go inside the Scarborough Shoal.*)
- Q22: Nakakita ba kayo ng opisyal ng gobyerno ng Pilipinas sa Scarborough Shoal? (*Did you notice any Filipino government official in the Scarborough Shoal?*)
- A22: Oo, sa dalawang linggong namalagi ako sa Scarborough Shoal, minsan kong nakita ang Philippine Coast Guard. (*Yes, in one instance, I saw the presence of the Philippine Coast Guard in the Scarborough Shoal.*)
- Q23: Ano ang ginawa ng Philippine Coast Guard sa Scarborough Shoal? (*What did the Philippine Coast Guard do in the Scarborough Shoal?*)
- A23: Inikot nila ang Scarborough Shoal upang magpatrolya. Pagkatapos, namalagi sila nang 3 araw sa may bukana ng

Scarborough Shoal para magbantay. Nilapitan nila ang mga bangka sa loob ng Scarborough Shoal upang tingnan kung sila ay may papeles at upang alamin kung taga-saan sila. (*The Philippine Coast Guard patrolled the area of the Scarborough Shoal. For 3 days, they guarded the entrance into the Scarborough Shoal. They approached the boats inside the Scarborough Shoal to see if they are properly documented and if they are from the Philippines.*)

- Q24: Habang nagbabantay ang Philippine Coast Guard sa bukana ng Scarborough Shoal, nasaan ang mga dayuhan? (*While the Philippine Coast Guard was monitoring the entrance to the Scarborough Shoal, where were the fishermen from other countries?*)
- A24: Hindi ko sila nakitang nangisda sa loob at labas ng Scarborough Shoal. (*I did not see the foreign fishermen inside and outside the Scarborough Shoal.*)
- Q25: Nakita mo bang bumalik sa Scarborough Shoal ang mga dayuhang mangingisda? (*Did you see whether the foreign fishermen returned to the Scarborough Shoal?*)
- A25: Oo. (*Yes.*)
- Q26: Kailan mo uli nakita sa Scarborough Shoal ang mga dayuhang mangingisda? (*When did you see the foreigners in Scarborough Shoal again?*)
- A26: Nakita ko uli sila sa loob ng Scarborough Shoal 2 araw matapos umalis ng Philippine Coast Guard. (*I saw the foreign fishermen inside the Scarborough Shoal again 2 days after the Philippine Coats Guard had left.*)
- Q27: Nakakita ba kayo sa Scarborough Shoal ng dayuhang opisyal ng gobyerno? (*Did you notice any foreign government official in the Scarborough Shoal?*)
- A27: Hindi ako nakakita. (*No, I did not notice.*)
- Q28: Ano ang ginawa ninyo sa mga nahuling isda sa Scarborough Shoal? (*What did you do to the fish caught in the Scarborough Shoal?*)

- A28: Ang mga isdang nahuli namin ay ibinenta ng negosyante sa Malabon, Metro Manila. (*The fish caught were sold in Malabon, Metro Manila.*)
- Q29: Sa kasalukuyan, mayroon ka bang kakilalang Pilipinong nakakapangisda sa Scarborough Shoal? (*At present, do you know of a Filipino fisherfolk who is still catching fish in the Scarborough Shoal?*)
- A29: Wala. (*No one.*)
- Q30: Ano ang dahilan at wala nang Pilipinong nakakapangisda sa Scarborough Shoal? (*What is the reason why Filipinos can no longer catch fish in the Scarborough Shoal?*)
- A30: Sila ay pinagbawal ng mga taga-China na pumasok sa Scarborough Shoal. Malayo pa lang sila sa Scarborough Shoal, nagbigay na ng senyas ang taga-China na hindi sila maaaring lumapit. Binomba sila ng tubig ng mga taga-China. (*The Filipinos were prohibited by the Chinese from entering the Scarborough Shoal. While the Filipinos are still far from reaching the Scarborough Shoal, the Chinese already gave a signal not to proceed further. The Chinese used water cannons against the Filipinos.*)
- Q31: Sa kasalukuyan, nakakapangisda ka pa? (*At present, do you still catch fish?*)
- A31: Oo. (*Yes.*)
- Q32: Saan ka nangingisda? (*Where do you catch fish?*)
- A32: Ako ay nangingisda sa dagat malapit sa Masinloc, Candelaria at Palauig, Zambales. (*I catch fish at the sea near Masinloc, Candelaria at Palauig, Zambales.*)
- Q33: Nakakakita ka pa ba ng dayuhang bangka sa lugar kung saan sa kasalukuyang nangingisda? (*Do you still encounter foreign vessels fishing in the area where you now fish?*)
- A33: Hindi na. (*Not anymore.*)

- Q34: Nabanggit ninyo na hindi na nakakapangisda ang mga Pilipino sa Scarborough Shoal. May epekto ba ito sa inyo? (*You mentioned that Filipinos cannot fish in the Scarborough Shoal anymore. Does this have an effect to you?*)
- A34: Oo. (*Yes.*)
- Q35: Ano ang mge epektong ito? (*What are the effects?*)
- A35: Nabawasan ang aming kabuhayan. Hindi na kami nakakahuli ng maraming lapu-lapu, maya-maya at lobster. Nagpaikot-ikot na lang kami sa karatig-lugar dahil wala na kaming ibang mapuntahan. Malaki ang naging kabawasan sa kita ng mga Pilipinong mangingisda. (*There was a reduction in livelihood. We can no longer catch large quantities of lapu-lapu, maya-maya and lobster. We were constrained to catch fish nearby, for lack of other areas to go to. Filipino fishermen suffered reduction in income.*)
- Q36: Mahalaga bang makapangisda ang mga Pilipino sa Scarborough Shoal? (*Is it essential for Filipinos to be able to catch fish in the Scarborough Shoal?*)
- A36: Oo. Nananatiling pangarap na lang ng mga Pilipino ang muling makatungtong sa Scarborough Shoal. (*Yes. Filipino fishermen continue to dream of being able to reach Scarborough Shoal once again.*)
- Q37: Bakit mahalagang makapangisda nang malaya ang mga Pilipino sa Scarborough Shoal? (*Why is it important for Filipinos to be able to freely catch fish in the Scarborough Shoal?*)
- A37: Malaking tulong ito sa mga Pilipino. Mas magiging malaki ang maaari nilang kitain. Sa katunayan, ang maaaring kitain sa pangangisda sa Scarborough Shoal ay doble ng maaaring kitain sa pangangisda sa Masinloc, Candelaria at Palauig. (*Fishing in the Scarborough Shoal will greatly benefit Filipino fishermen. They will have potential to earn more money. In fact, the income that can be generated through fishing in the Scarborough Shoal is twice the income that can be earned through fishing in the seas of Masinloc, Candelaria and Palauig.*)
-

*Judicial Affidavit of Cecilio O. Tanéo*

BILANG KATUNAYAN, ako ay lumalagda ngayong ika-12 ng Nobyembre 2015, sa Candelaria, Zambales, Pilipinas, para patunayan ang katotohanan ng aking mga salaysay. Ako ay nagpapatunay na sinagot ko lahat ng mga itinanong sa akin dito, nang may kamalayan na ginagawa ko ito matapos manumpa, at na maaring may kriminal na pananagutan para sa pagsasalaysay ng walang katotohanan. (*IN WITNESS WHEREOF, I have hereunto affixed my signature on this 12<sup>th</sup> day of November 2015, in Candelaria, Zambales, Philippines, to prove the truthfulness of all my statements here. I hereby attest that I answered all the questions asked of me herein, fully conscious that I have done so under oath, and that I may face criminal liability for false testimony or perjury.*)

  
**CECILIO O. TANEO**  
Affiant

*Judicial Affidavit of Cecilio O. Taneo*

REPUBLIC OF THE PHILIPPINES )  
MUNICIPALITY OF CANDELARIA )S.S.  
PROVINCE OF ZAMBALES )

Before me, a government official authorized to administer oath, personally appeared:

<u>Name</u>	<u>Identification No.</u>	<u>Place/ Date of Issue</u>
Cecilio O. Taneo	Citizen Crimestrike Group ID No. 94859	Zambales/1999

who was identified by me through competent evidence of identity to be the same person who presented, signed the foregoing instrument before me, and who took an oath before me as to such instrument.

Witness my hand and seal this 12<sup>th</sup> day of November 2015.

  
**HERMES L. OCAMPO**  
Administering Officer

**CITIZENS CRIMESTRIKE GROUP**  
 Accredited Corruption Prevention Unit (C.P.U.)  
**OFFICE OF THE OMBUDSMAN**  
**AGENT**

NAME		CODE	
CECELIO O. TANELO, SR		94859	
ADDRESS			
Masinloc, ZANBALES			
HT	WT	Hair	Eyes
5'6"	60	Bk	Bk
Age	Chapter		
39	Reg. III		



**UBALDO DE FERALLA**  
 Major, P.C. (Ret.)  
 National President

**18 OCTOBER 2000**  
 VALID UNTIL  
 (Not Valid Without seal)

Gov't. Recognized under SEC Reg'n No. ANO-92-02652  
 P.N.P. Control No. 5485 (NEPILGRU)

**NON-GOVERNMENT ENTITY**

Bearer is vested with the authority to detect and gather information regarding all forms of criminalities, graft and corruption throughout the Philippines and to assist the POLICE MILITARY and other government law enforcement agencies by furnishing them with VITAL INFORMATION. Any help and courtesy extended to bearer is highly appreciated. This ID is not issued for soliciting undue considerations. If found, please return // mail to P.O. Box 3257 C. P. O. MANILA.

Directive: **DO NOT POSE AS AN AGENT OF THE LAW.**

Recommended by  
 Ins. ROMA/renewal

**SWORN ATTESTATION**

I, **IVAN MARK S. LADORES**, of legal age, and with office address at the Office of the Solicitor General, 134 Amorsolo St., Legaspi Village, Makati City, after having been sworn in accordance with law, hereby depose and state:

1. I am an Associate Solicitor from the Office of the Office of the Solicitor General, counsel for the Republic of the Philippines.
  
2. On November 12, 2015, I conducted the examination of Mr. Cecilio O. Taneo in Filipino, a language known to the witness, at Candelaria, Zambales, which shall serve as Mr. Taneo's direct testimony in PCA Case No. 2013-19, in the matter of the Arbitration between the Republic of the Philippines and the People's Republic of China, which is pending before an Arbitral Tribunal constituted under Annex VII to the 1982 United Nations Convention on the Law of the Sea.
  
3. I have faithfully recorded or caused to be recorded the questions I asked and the corresponding answers that Mr. Taneo gave me.
  
4. During the said examination, neither I nor any other person assisted or coached Mr. Taneo regarding the latter's answers.

IN WITNESS WHEREOF, I hereby sign this Sworn Attestation this 12<sup>th</sup> day of November 2015 in Candelaria, Zambales, Philippines.

  
**IVAN MARK S. LADORES**  
Affiant

Judicial Affidavit of Cecilio O. Taneo

REPUBLIC OF THE PHILIPPINES )  
MUNICIPALITY OF CANDELARIA )S.S.  
PROVINCE OF ZAMBALES )

Before me, a government official authorized to administer oath, personally appeared:

<u>Name</u>	<u>Identification No.</u>	<u>Place/ Date of Issue</u>
Ivan Mark S. Ladores	Passport No. EC2269778	Manila / October 1, 2014

who was identified by me through competent evidence of identity to be the same person who presented, signed the foregoing instrument before me, and who took an oath before me as to such instrument.

Witness my hand and seal this 12<sup>th</sup> day of November 2015.

  
**RAYMUND I. RIGODON**  
Administering Officer



**Annex 699**

K.E. Carpenter & L.M. Chou, *Environmental Consequences of Land Reclamation Activities on Various Reefs in the South China Sea* (14 Nov. 2015)



**Environmental Consequences of Land Reclamation Activities  
on Various Reefs in the South China Sea**

Expert Report of Professors Kent E. Carpenter, PhD and Loke Ming Chou, PhD

14 November 2015

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## **I. Executive Summary**

Beginning in late 2013, the People's Republic of China has engaged in large-scale land reclamation activities on at least seven primarily underwater reefs located in the Spratly Islands, dredging the seabed to build artificial islands. China's actions have caused grave harm to the marine environment, both locally to the individual reefs directly subject to land reclamation, and systematically, due to the reefs' importance to the health of the overall ecosystem of the South China Sea.

China's activities required dredging the area near where the artificial island was being constructed to obtain landfill. This landfill is comprised of coral harvested from the reefs, compacted sediment and sand dredged from the seabed and other materials. The landfill was then dumped on the shallow reefs to create artificial islands. This Report concludes that these activities have a seriously harmful effect on the coral reefs and associated habitats within the Spratly cluster.

Specifically, the Report focuses on the myriad mechanisms of harm associated with land reclamation. These include destruction of corals dredged for landfill materials and the burial and smothering of reefs where artificial islands have been created, as well as significant ecological impacts on the reef ecosystems related to impaired water quality, excessive nutrient loading, and hydrodynamic changes. Non-coral ecosystems, such as seagrass and soft-bottom habitats, are also negatively impacted by China's activities.

Harm to the coral reefs and other ecosystems in the Spratly Islands jeopardizes the healthy functioning and vitality of the many species dependent on coral reefs, some of which are endangered or vulnerable to extinction. Moreover, harm to coral reefs impairs their provision of important ecosystem services (such as provision of food and raw materials, climate regulation, waste bioremediation and nutrient cycling) and threatens the health of the overall South China Sea ecosystem.

This Report also focuses on the long-term ramifications of the island building. Specifically, it details how the burial has led to the permanent destruction of the seven coral reefs and the activities have led to nearly 100 km<sup>2</sup> of severely damaged coral reef. The report outlines the recovery prospects for these damaged reefs given that recovery is highly variable under any circumstances and weather patterns and continued human involvement will further depress recovery.

This Report is structured as follows. Section II describes the qualifications of the authors as experts. Section III summarizes the key points of the previous Expert Report submitted in this arbitration, by Professor Kent E. Carpenter, Ph.D. Section IV outlines the geological history of the South China Sea to explain how the island building has transformed the area. Section V describes the nature of China's activities and details the amount of artificial land mass that has been created by burying coral reefs. Section VI demonstrates how those land reclamation activities cause serious and systematic damage to the ecosystem of the South China Sea and outlines the irreversible nature of some of the harm. Section VII is the conclusion.

## II. About the Authors

### A. Kent E. Carpenter

Dr. Carpenter is a Professor in Biological Sciences at Old Dominion University in Norfolk, Virginia, United States, where he has taught and carried out marine biological research since 1996. Since 2005, he has also served as Manager of the Marine Biodiversity Unit and Global Marine Species Assessment of the International Union for Conservation of Nature (“IUCN”). He did his undergraduate work at the Florida Institute of Technology in Melbourne, Florida, United States, where he graduated with high honors. He then spent three and a half years as a U.S. Peace Corps Volunteer in the Philippine Bureau of Fisheries and Aquatic Resources, Research Division, conducting research on the coral reefs of the Philippine archipelago. He received his Ph.D. in Zoological Sciences at the University of Hawaii in Honolulu, Hawaii, United States, through a fellowship with the East-West Center.

Dr. Carpenter then returned to the Philippines as a Post-doctoral Fellow and Research Associate for the Hawaii Institute of Marine Biology at the University of the Philippines in the Visayas. He subsequently held positions at the Kuwait Institute for Scientific Research as a marine biologist and as a Senior Fisheries Research Officer for marine biodiversity of the Food and Agriculture Organization of the United Nations in Rome, Italy.

He has received numerous awards for his work, including being selected as a Fulbright Senior Scholar, which enabled him to spend six months at Silliman University in Dumaguete, Philippines in 2011. His primary research interests are marine conservation biology, systematics and evolution of fishes, ecology of coral reefs, and marine biogeography and phylogeography. He has taught courses in Ichthyology, Marine Biology, Evolution, Systematics and Speciation and Marine Conservation Biology. He has authored 66 refereed scientific journal articles included in high impact journals such as *Science* and *Nature*. He has also authored nine full books and written 31 additional book chapters. His CV is attached to this expert report.

### B. Loke Ming Chou

Dr. Chou retired from his position as Professor at the Department of Biological Sciences (National University of Singapore) in October 2014. He currently has a joint appointment as Adjunct Research Professor at the Tropical Marine Science Institute and the Department of Biological Sciences of the National University of Singapore. He has been with the University since 1977, when he was first appointed as Lecturer after obtaining his Ph.D. With over 30 years of research experience on marine environment conservation and coral reef biology in Singapore and Southeast Asia, he took leadership beginning in 1998 over the periodic compilation of Southeast Asia’s coral reef condition for the global reef status reports published by the Global Coral Reef Monitoring Network (GCRMN) of the International Coral Reef Initiative (ICRI). He also edited the UNEP/COBSEA “State of the Marine Environment Report for the East Asian Seas: 2009”, the first such assessment for East Asia.

His research focus expanded to include reef restoration with his participation in coral translocation projects in Singapore and the region. Among the numerous professional services to international and regional institutions, he was a member of the GCRMN Scientific and Technical Advisory Committee (1996 to 2012), serving as Chairman from 2003 to 2005; he currently serves as a member of the Asia Environmental Council Executive Board (since

1998), a member of the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) (since April 2010), and as a member of the roster of experts for the Asia Pacific Economic Cooperation Marine Resource Conservation Working Group (since November 2010). He served as advisor/expert to regional projects such as the UNEP South China Sea Project (2002-2008) and the GEF/UNDP Partnerships in Environmental Management for the Seas of East Asia (since 1993).

Dr. Chou has authored/co-authored over 200 articles which have appeared in peer reviewed journals including ‘Coral Reefs’ and ‘PLOS ONE’. A principle focus of his published scholarship has been on coral reef biology, conservation and related issues, including in the South China Sea. He has provided consultancies to local as well as international agencies, including the United Nations Environment Programme, the Food and Agriculture Organization, the World Bank and WorldFish. His CV is attached to this report.

### III. The Carpenter Report

The Philippines previously submitted an Expert Report prepared by Professor Kent E. Carpenter (2014) as Annex 240 to its Memorial. The general conclusions of this report are still valid. One of the key focuses of Prof. Carpenter’s report was the harmful environmental effects of China’s pre-2013 construction activities on the reefs in the Spratly Islands.

The report highlights the interconnectivity between the different ecosystems in the South China Sea, which is maintained by the monsoon-driven ocean currents that circulate water in the sea, and is influenced by inflow and outflow exchanges with the Pacific Ocean and Indonesian seas. This connectivity makes the Spratly ecosystem important to the South China Sea by providing larvae to replenish the other systems within and beyond the boundary confines of the Sea. The 2014 Carpenter report also showed that this connectivity means that any environmental damage to these reefs will reduce parent populations, decrease the abundance of larvae and diminish recruitment potential of downstream reefs, and in general affect their viability.

The report also discussed the high diversity of marine life that the Spratly reefs support. These include endangered species on the IUCN Red List of Threatened Species (e.g., Blue coral [*Heliopora coerulea*], Giant clam [*Tridacna gigas*] and the Hawksbill turtle [*Eretmochelys imbricata*]).

The 2014 Carpenter report concluded that the construction of concrete structures at Mischief and McKennan (Hughes) Reef caused permanent damage to those reefs by displacing and removing reef habitat. The consequent impairment of the reefs’ wave dissipation ability further damages the structural integrity of the reefs themselves. These impacts damage not only the reef itself but also the adjacent reefs within the Spratlys and beyond. Since they support very rich species diversity, considered to be among the highest in the world, any damage will have serious implications to the wider region.

Since the 2014 Carpenter report, it has become clear that China has undertaken significant island building land reclamation activities on a much greater scale than the described disturbances at Mischief Reef and McKennan (Hughes) Reef. This Report describes the negative environmental effects of those activities that amplify the impacts concluded in the Carpenter 2014 report.

#### IV. Geological History of the South China Sea

The geological history of the South China Sea is relevant to artificial island-building land reclamation activities in the region because these activities represent a substantial change in life-sustaining reef topography that natural processes have taken millions of years to form. Shallow reefs and islands with very low to negligible vertical relief, often submerged at high tides, predominate the disputed deep basin regions of the South China Sea. These shallow reefs and low islands have persisted in the South China Sea for tens of thousands of years, including long before human habitation in the region.

The geological origins of the South China Sea remain a subject of debate (Taylor & Hayes 1983, Hall & Sevastjanova 2012, Zahirovic et al. 2013, Barckhausen et al. 2014). This is because the geology of Southeast Asia is extremely complicated, due to the convergence of more actively shifting tectonic plates than anywhere else on Earth (Hall 2009). There are two gross topographical features that characterize the seafloor of the South China Sea: continental shelf (including the Sunda Shelf in the South) and deep basin in the central part of the South China Sea between China and Vietnam in the west and the Philippines and northern Borneo in the east.

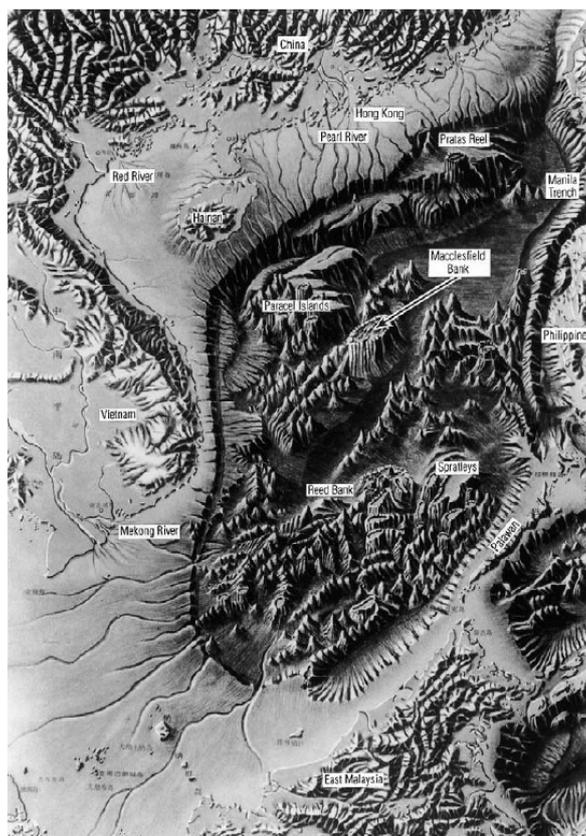


Fig 1: “A chart of the South China Sea with the water removed to show topographical features of the seabed”. (Morton and Blackmore, 2001).

This deep basin region of the South China Sea includes the low islands and reefs disputed by the Philippines and China. The deepest oceanic sea floor in this region was formed by a phenomenon called “seafloor spreading” that recent calculations determine took place over a period of 32 million years (Barckhausen et al. 2014). The creation of this deep portion of the South China Sea is a result of the shifting of tectonic plates that forced the break-up of Southeast Asian continental crust. As the seafloor spread open from this tectonic movement, lighter, shallower continental crust was pushed eastward and heavy, deeper oceanic crust spread out in the center of the oceanic basin (Hutchinson 2004). The shallower continental crust underpins the Spratly Island and Reed Bank regions of the disputed region in the southern part of the deep basin while oceanic crust underpins the chain of seamounts in the deepest part of the central basin. This chain of seamounts originates in the southwest central part of deep basin and runs roughly north and east and terminates near the western coast of northern Luzon. These seamounts were formed by volcanic activity and are mostly deeply submerged with one exception being the shallow Scarborough Shoal atoll. In contrast, the Spratly Islands and Reed Bank were formed by vertically shifting blocks of continental crust caused by rifting of this crust. The topographical features of the basin region of the South China Sea can be seen in above (Fig. 1).

Regardless if underpinned by volcanic seamounts or uplifted blocks of continental crust, the shallow portions of the disputed reefs and islets are so-called ‘carbonate platforms’. This means that they are formed by living organisms that deposit their skeletons to form a sedimentary rock. The formation of the shallow portions of the deep basin of the South China Sea took millions of years and these carbonate sediments are often over one kilometer in thickness (Barckhausen et al. 2014). Reefs are built up on seamounts and uplifted continental crust when these features are in shallow enough water for light to penetrate and active photosynthesis to take place. This energy-sustaining photosynthetic activity is required for active coral reef formation. Sea level typically rises and recedes in geological timescales tens and sometimes hundreds of meters. As sea level rises, photosynthetic reef building coral can typically keep pace with these gradual sea level changes and therefore maintain their position near the surface by growing upward. As sea level recedes, the forces of waves and currents break up the coral into sandy sediments and coral growth continues in water deep enough to resist waves but shallow enough for light penetration. Therefore coral reef depth rises and lowers with changes in sea level. Natural island formation occurs when the reef area is large enough to accumulate sediments and the forces of wave and current action do not carry sediments away from the reef. Natural island formation in this region has been limited because erosion has outpaced the build-up of terrain during a long period of relative stability. Sea level and climate has been fairly constant since the last ice age ended somewhere between 10 to 15 thousand years ago. Therefore, the present day coral reef ecosystems around the numerous naturally shallow reefs and limited low islands of the Spratlys, Reed Bank, and Scarborough Shoal have developed over this long period of stability. This period encompasses long before human civilizations began around 6,000 years ago.

Artificial island construction will dramatically disrupt the ecosystems of the surrounding reefs, particularly because these ecosystems have developed over geological times scales of relative stability.

## V. Land Reclamation in the South China Sea

### A. *China's pre-2013 Construction Activities*

Prior to 2013, China engaged in limited construction activities on occupied features in the Spratlys. Construction began on Subi and Cuarteron Reefs in the early 1990s and on Mischief Reef in 1995. Most of the construction was limited to building discrete structures with a minimal footprint on the natural form and structure of existing coral reefs. The environmental effects of the construction of these structures was discussed in the Carpenter Report (Carpenter, 2014).

In contrast to the current reclamation activities, the environmental footprint of China's pre-2013 construction activities was small in comparison to the size of the reefs on which they are located. For example, the largest-scale undertaking prior to 2013 occurred at the southwestern part of Fiery Cross Reef (5.5 km<sup>2</sup>), where an artificial island approximately 115 x 80m was constructed. Based on pictures from Xin Hua news agency (Figs. 2 & 3), that construction appears to have involved some dredging and associated reclamation. Other permanent outposts were likely constructed using similar methods. These outposts were smaller than at Fiery Cross Reef, ranging from about 40 x 15m on Subi Reef to 105 x 50m on Johnson South Reef. (These estimates are based on imagery available on Google Earth.) At Mischief Reef, the size of the pre-existing concrete platform was 45 x 35m (Fig. 4).



Fig 2: Construction of the outpost on Fiery Cross Reef began in 1988. This outpost is said to serve the purpose of radar operations, coastal defense missile deployment and/or logistical stationing. (Asia Maritime Transparency Initiative, 2015a). Picture source: Xin Hua News Agency via [http://news.qq.com/original/tuhua/yongshu\\_island.html](http://news.qq.com/original/tuhua/yongshu_island.html).



Fig 3: Construction of Fiery Cross outpost in 1988 involved dredging and landfill. Source: Xin Hua News Agency via [http://news.qq.com/original/tuhua/yongshu\\_island.html](http://news.qq.com/original/tuhua/yongshu_island.html).

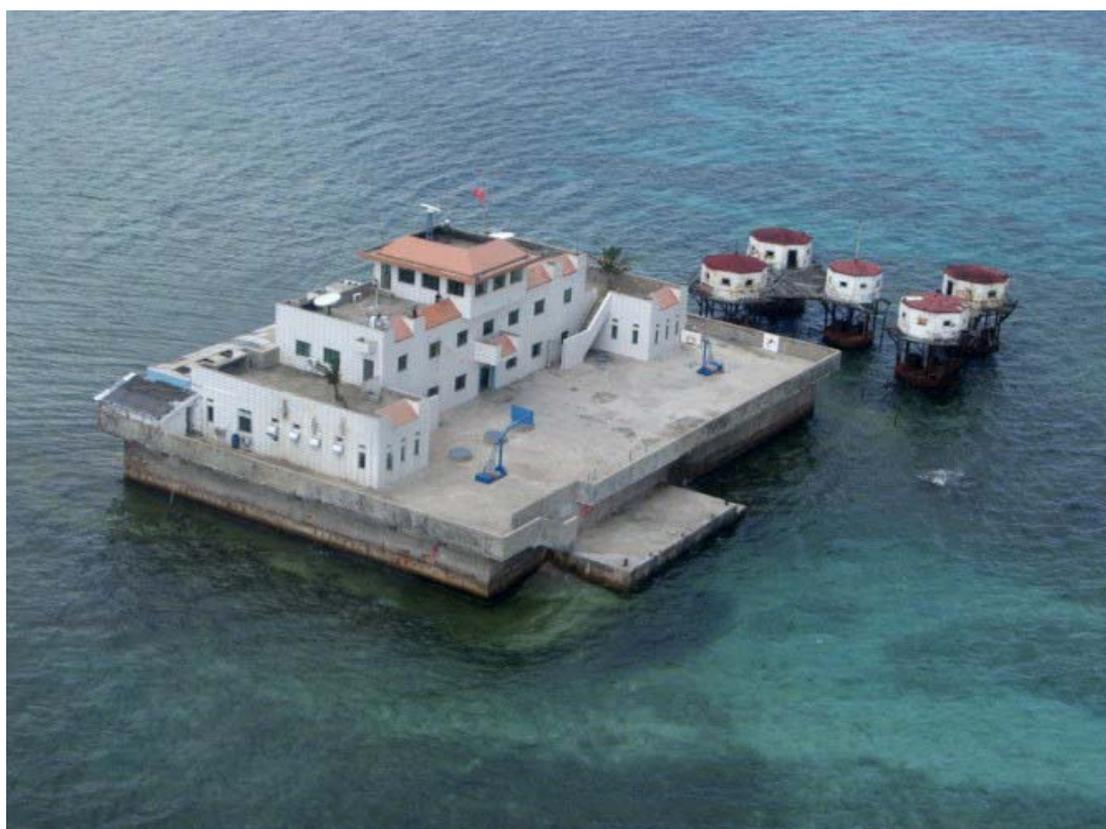


Fig 4: Concrete platform on the south of Mischief Reef with a three-storey concrete building. The platform area is about 45m × 35m. Picture source: <http://www.panoramio.com/photo/79330996> available via Google Earth.

Notwithstanding their comparatively small size, the pre-2013 construction and reclamation activities caused the degradation of fragile coral reef ecosystems in the South China Sea. China's current land reclamation activities cause a much larger negative environmental impact due to the scale. These impacts will be discussed below.

#### *B. The Process of Land Reclamation*

China embarked on a program of large-scale land reclamation beginning in late 2013. It has created more than 2,900 acres of land by dredging seafloor material for use as landfill. According to the United States government, China's activities in the past two years account for 95 percent of all reclaimed land in the Spratly Islands (United States, Department of Defense 2015). This reclamation activity represents a form of island building because permanent emergent land forms did not exist on the reefs prior to construction activities. The current large, new island footprint represents a significant departure from environmental conditions that had previously been stable on these reefs for thousands of years

China's activities have taken place on at least seven features in the South China Sea: Mischief Reef, Cuarteron Reef, Fiery Cross Reef, Gaven Reef, Johnson South Reef, McKennan (Hughes) Reef and Subi Reef. The magnitude of these activities is significantly greater than the construction activities that China carried out beginning in 1988 on these same features. It also vastly outpaces the activities of any other nation engaging in reclamation and construction on features in the South China Sea.

Despite China's claims that the "ecological environment of the South China Sea will not be damaged" (Ministry of Foreign Affairs of the People's Republic of China, 2015), this is an impossible promise to fulfill given the process of land reclamation and the scope of the activities undertaken to date.



Fig 5: Land reclamation on Johnson South Reef on 25 Feb 2014. A dredger pumps spoils from the surrounding seabed onto the reef through a floating pipeline. Picture source: <http://www.dfa.gov.ph/index.php/2013-06-27-21-50-36/dfa-releases/2871-china-s-reclamation-on-mabini-reef>

China has deployed a large fleet of complex machinery capable of displacing massive amounts of material from the seabed that is used to bury coral reefs and create artificial islands. For example, China has used a cutter suction dredger manufactured by the Tianjin Dredging Co., the *Tian Jing Hao*. The company website boasts that it is the most powerful cutter suction dredger in Asia and the third most powerful in the world (Tianjin Dredging Co., Ltd.). It breaks up the seabed by deploying a powerful rotating cutter that can operate up to 4200kW at a depth of up to 30 m to pulverize the hard substrate (e.g., coral rock or compacted sediment) into fragments. The fragments of the seabed are then pumped through pipelines or onto barges before being blasted onto the reefs, burying them in layers of sand, crushed coral, and rock.

The *Tian Jing Hao* is a self-propelled cutter suction dredger, which means it can move freely without being towed. According to Chinese commentator Shi Yang, this enabled the Chinese to utilize the dredger over the course of 10 months during 2013-2014 to navigate between five reefs in the Spratlys. Shi estimated that the *Tian Jing Hao*, capable of extracting 4500 m<sup>3</sup> of sand, rock and other materials from the surrounding seabed per hour, dredged and blasted more than 10 million m<sup>3</sup> of material onto the reefs during that time (Shi, 2015). According to the U.S. Congressional Research Service, that is the “equivalent of three times the volume of concrete used to build the Hoover Dam” (Dolven et al., 2015).



Fig 6: *Tian Jing Hao* is said to be the most powerful cutter suction dredger in Asia with a 4500 m<sup>3</sup> per hour extraction rate. Its length and width are 127.5m and 22m.

Cutter suction dredgers work by employing a rotating cutter head with large metal teeth specially designed break up ground that is particularly hard, such as hard soil, rock, and reef. The teeth are essentially picks that chisel away at the seabed or reef, layer by layer. The cutter head extends down from the ship and drags across the seabed, pulverizing hard soil and reef into fragments. It works by disintegrating or breaking the cohesion of the soil. The pulverized spoils of dredging are then sucked in by dredge pumps and pumped through long floating pipeline using centrifugal dredge pumps. The dredged material is discharged onto the surface of the reef (IADC, 2014).

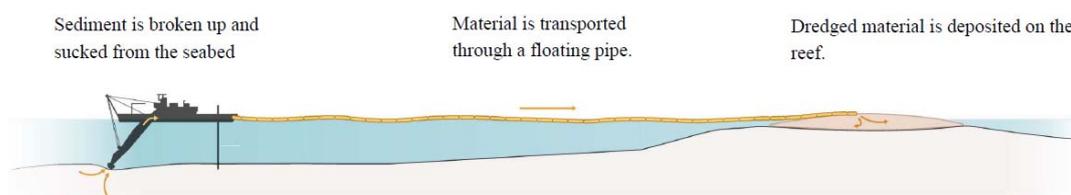


Fig 7: Diagram of dredging process. (Watkins, 2015).

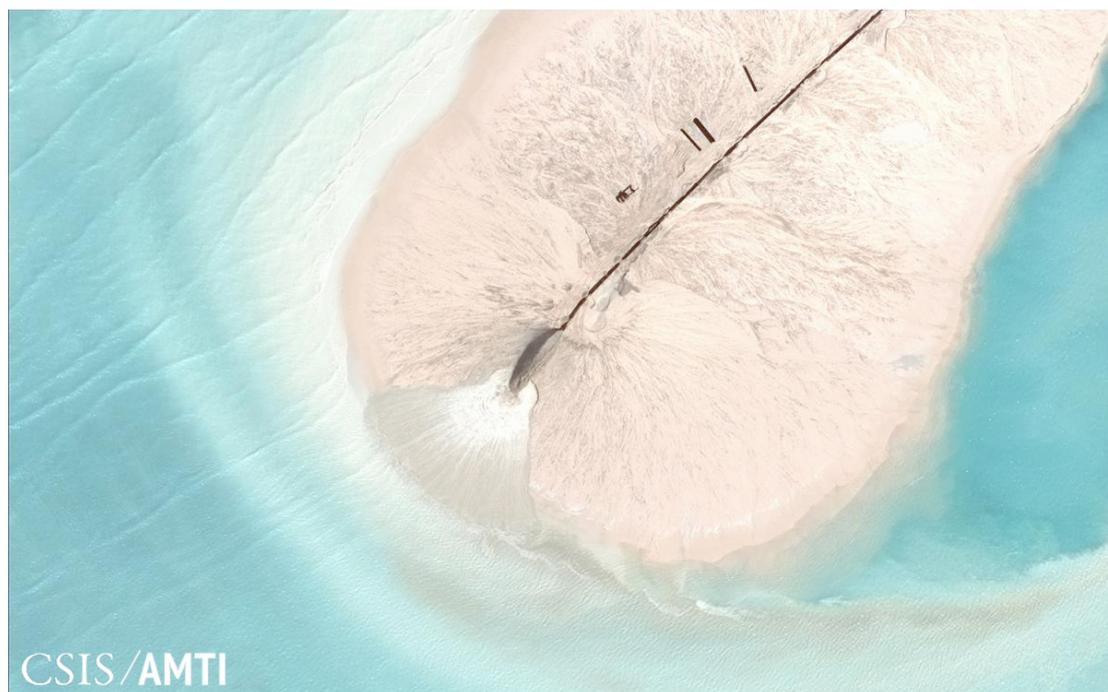


Fig 8: Fiery Cross Reef. Image taken 5 November 2014 shows the spoils of dredging being pumped onto and burying the reef. Picture source is DigitalGlobe, available via the CSIS Asia Maritime Transparency Initiative <http://amti.csis.org/fiery-cross-reef-tracker/>.

Aerial and satellite imagery confirms the presence of several cutter suction dredgers in the Spratlys, including at Fiery Cross Reef, Gaven Reef, Johnson South Reef and Mischief Reef (Lee, 2015). At least 10 dredgers can be seen working simultaneously at Mischief Reef in March 2015 (Fig. 9). As of 5 March 2015, at least nine dredgers were reportedly working at Subi Reef to create larger landmasses (Hardy et al., 2015).



Fig 9: Several dredgers can be seen working in the interior of Mischief Reef in this image taken on 16 March 2015. Picture source is DigitalGlobe, available via the CSIS Asia Maritime Transparency Initiative <http://amti.csis.org/mischief-reef/>.

China's large-scale land reclamation activities are a major technical operation. Based on satellite images and media reports, the land reclamation process involves dredging of adjacent areas and using the spoils (i.e., the dredged material) as the landfill material. On Johnson South Reef, for example, millions of tonnes of rock and sand were reportedly dredged from the sea floor and heaped on the shallow reef (Wingfield-Hayes, 2014). The same appears to be happening at the other reefs where reclamation is occurring.

The process employed to create and gather spoils to use as landfill involves cutting deep channels, known as dredging tracks, through the reef formations to allow ships to enter through the channels to the lagoons as well as to facilitate the transfer of dredged materials to the center of the reclaimed area. The dredging track created at Subi Reef is visible in a series of aerial photographs taken in January 2012 and September 2015 (Figs 10-12). As can be observed in the photographs, the dredging track created to accommodate pre-2013 construction activities was far narrower than the current dredging track. The close up image of the current dredging track at Subi Reef shows that it is wide enough to easily accommodate one of China's many dredgers (Fig. 12). In both instances, the dredging track cuts a clear and distinct slice through the reef, causing permanent damage. These channels cut across the foundation and framework of the reefs, destroying their structural integrity as well as obliterating all reef life present within them.



Fig 10: Image taken on 27 January 2012 shows the dredging track created in the south east corner of Subi Reef to accommodate pre-2013 construction activities. Picture source is DigitalGlobe, available via the CSIS Asia Maritime Transparency Initiative <http://amti.csis.org/subi-reef-tracker/>.



Fig 11: Image taken on 3 September 2015 shows a significantly widened dredging track in the south east corner of Subi Reef. Picture source is DigitalGlobe, available via the CSIS Asia Maritime Transparency Initiative <http://amti.csis.org/subi-reef-tracker/>



Fig 12: The widened dredging track created on Subi Reef is visible in this close up image taken on 3 September 2015. Picture source is DigitalGlobe, available via the CSIS Asia Maritime Transparency Initiative <http://amti.csis.org/subi-reef-tracker/>.



Fig 13: Sediment plumes can be seen engulfing almost the entire western half of the lagoon and the sea beyond the western reef rim of Mischief Reef in this image taken 16 March 2015. Picture source is DigitalGlobe, available via the CSIS Asia Maritime Transparency Initiative <http://amti.csis.org/mischief-reef/>.

The process of land reclamation also generates sediment plumes beneath the sea's surface. These are clearly visible at Mischief Reef, where sediment plumes nearly engulf the entire western half of the lagoon (Fig. 13). They can also be seen stretching across the entire reef from north to south in the image and close-up taken at Cuarteron Reef on 8 March 2014 (Fig. 14).

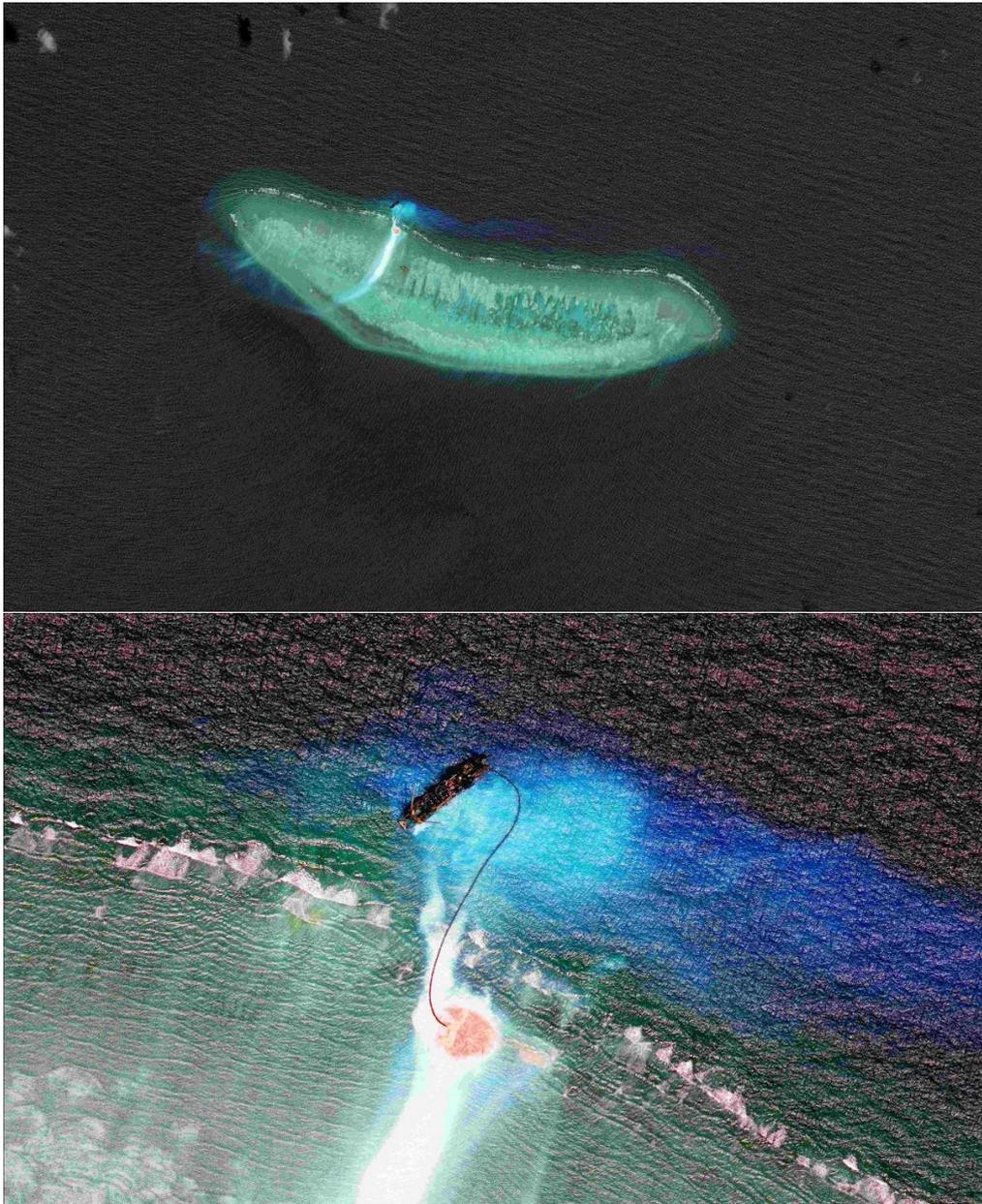


Fig 14: Sediment plumes seen stretching across Cuarteron Reef in these two images taken 8 March 2014. Picture source is DigitalGlobe, available via the CSIS Asia Maritime Transparency Initiative <http://amti.csis.org/cuarteron-reef-tracker/>.

### C. Reclamation Activities on Specific Features

#### 1. Mischief Reef

China began land reclamation activities at Mischief Reef as early as January 2015. Activities on the reef progressed rapidly. In less than a year, China has buried almost the entirety of the reef. A satellite image dated 16 March 2015 shows plumes of sand being piled on top of three different areas of the reef: in the northwest, the southwest and the south (Fig 13). Satellite images from 17 March 2015 reveal numerous dredgers at work, at least 9 working simultaneously in the close up image below. Large sediment plumes are evident throughout the area (Fig. 15).



Fig 15: Mischief Reef. This image taken 17 March 2015 shows several dredgers working simultaneously. Picture source is DigitalGlobe, available via the CSIS Asia Maritime Transparency Initiative <http://amti.csis.org/mischief-reef/>.

The total area of land created by China on Mischief Reef is 5,580,000 m<sup>2</sup>. Images from 10 June 2015 reveal that the entire northwest, north, and northeast portions of the reef have been covered with sand, crushed coral, and landfill. The southern entrance to the reef has been widened from its original 110 m to 275 m, destroying 165 m of reef in the process. Reports suggest that China's ultimate goal at Mischief Reef is the construction of an airstrip, a port and a base for fisheries (Center for Strategic & International Studies, Mischief Reef Tracker).



Fig 16: Mischief Reef. The picture on the left shows the atoll in its natural condition. The picture on the right, taken 8 September 2015 shows created land on top of nearly the entirety of the reef. The southern entrance of the atoll has widened to 275m. Picture source is DigitalGlobe, available via the CSIS Asia Maritime Transparency Initiative <http://amti.csis.org/mischief-reef/>.

## 2. Subi Reef

Subi Reef in its natural state is submerged at high tide. However, due to reclamation activities beginning in the summer of 2014, there is now an artificial land mass that has been created with 3,950,000 m<sup>2</sup> covering the majority of the reef (Center for Strategic & International Studies, Subi Reef Tracker).

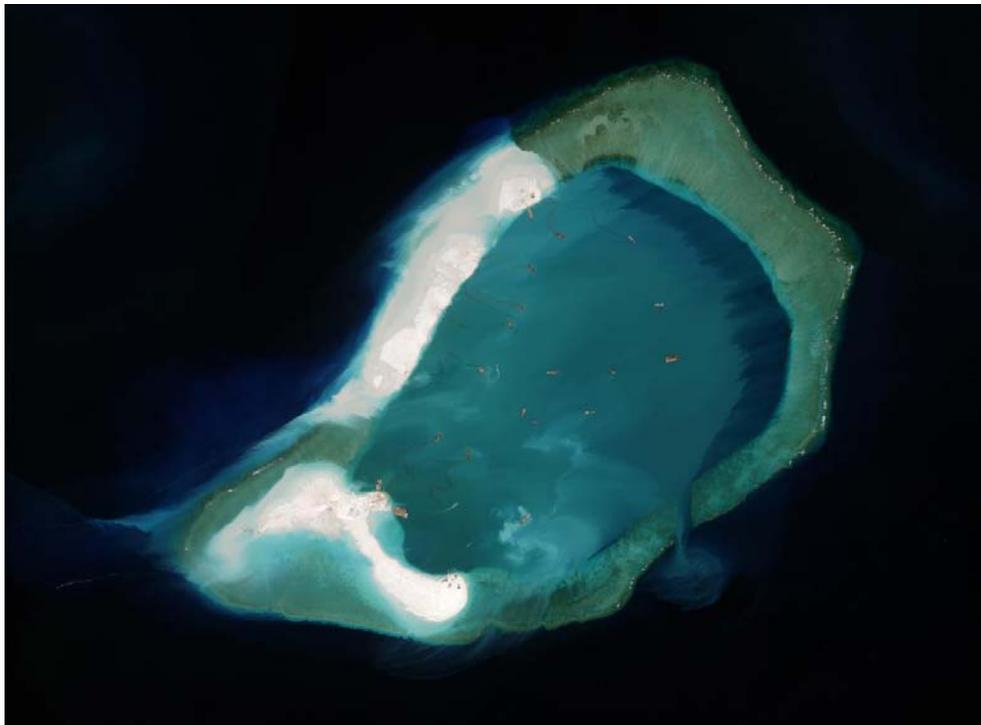


Fig 17: Subi Reef. Image taken 5 March 2015 shows the reclamation activities in progress at Subi Reef. Almost the entirety of the lagoon is engulfed in sediment plumes. Picture source is DigitalGlobe, available via the CSIS Asia maritime Transparency Initiative <http://amti.csis.org/subi-reef-tracker/>.

### 3. Johnson South Reef

Prior to 2013, China's construction on Johnson South Reef was limited to a small structure covering an area of approximately 1,075 m<sup>2</sup>. China began reclamation activities on Johnson South Reef in the spring of 2014 and progressed at a remarkable speed. Within a year of the commencement of the land reclamation, China created an island on Johnson South Reef that was nearly 1,000 times larger than the previous structure, approximately 100,000 m<sup>2</sup> (Center for Strategic & International Studies, Johnson Reef Tracker).

Johnson South Reef has been permanently damaged. Millions of tonnes of rock and sand were reportedly dredged from the sea floor and heaped on the shallow reef. (Wingfield-Hayes, 2014). The process of dredging this material created extensive sand plumes beyond the immediate area of reclamation. The physical integrity of the reef structure has been compromised by the dredging of an extensive channel through the reef to the immediate northwest of the new installation. According to images released by the Chinese government, the design plans for Johnson South Reef include an airstrip and harbour (Diola, 2014).



Fig 18: Johnson South Reef. Image taken 22 January 2014 shows land reclamation in progress. Picture source is DigitalGlobe, available via the CSIS Asia Maritime Transparency Initiative <http://amti.csis.org/johnson-reef-tracker/>.

#### 4. Cuarteron Reef

China has increased the size of the artificial land mass on Cuarteron Reef by 200 times since land reclamation began in the spring of 2014. China previously created a structure covering an area of approximately 1,200 m<sup>2</sup>. The total area of land created on top of the reef now measures at roughly 246,150 m<sup>2</sup> (Center for Strategic & International Studies, Cuarteron Reef Tracker).

As is the case at other reefs, China's activities have permanently changed the character of the reef, damaging it beyond the point of recovery. It created an access channel 12 meters wide by cutting directly through the body of the reef, leaving a harbour-like feature capable of berthing large vessels to the immediate west of the new man-made island. The structures currently built on the feature indicate a plan for sustained human activities.



Fig 19: Cuarteron Reef. Image taken 24 September 2014 shows land reclamation in progress and wide dredging track cut into the reef. Picture source is DigitalGlobe, available via the CSIS Asia Maritime Transparency Initiative <http://amti.csis.org/cuarteron-reef-tracker/>.

#### 5. McKenna (Hughes) Reef

China constructed a small concrete platform of 380 m<sup>2</sup> on McKenna Reef several years prior to the commencement of reclamation activities. Between April 2014 and February 2015, McKenna Reef was covered with enough sand and rock to create an artificial landmass with an area of 73,000 m<sup>2</sup> (Center for Strategic & International Studies McKenna Reef Tracker).

As with other reefs, the reef has been permanently damaged by enlarging the entrance to the reef - destroying large tracts of coral and other natural features in the process. It seems that the purpose of this is to allow for greater traffic from larger vessels.

## 6. Gaven Reef

Gaven Reef has been transformed from a coral reef to an artificial island created from 136,000 m<sup>2</sup> of land dredged from the sea bed. Although China has had a presence on the reef since at least 2003, land reclamation did not begin until on or about May 2014. Within the span of a year, China created a landmass measuring 300 meters by 250 meters (Center for Strategic & International Studies, Gaven Reef Tracker).

As with other reefs, the transformation that has taken place at Gaven Reef is irreversible. A large swath of the reef has been buried in sand and rock. A wide channel has been cut into the center of the reef, where ships have been captured docking.

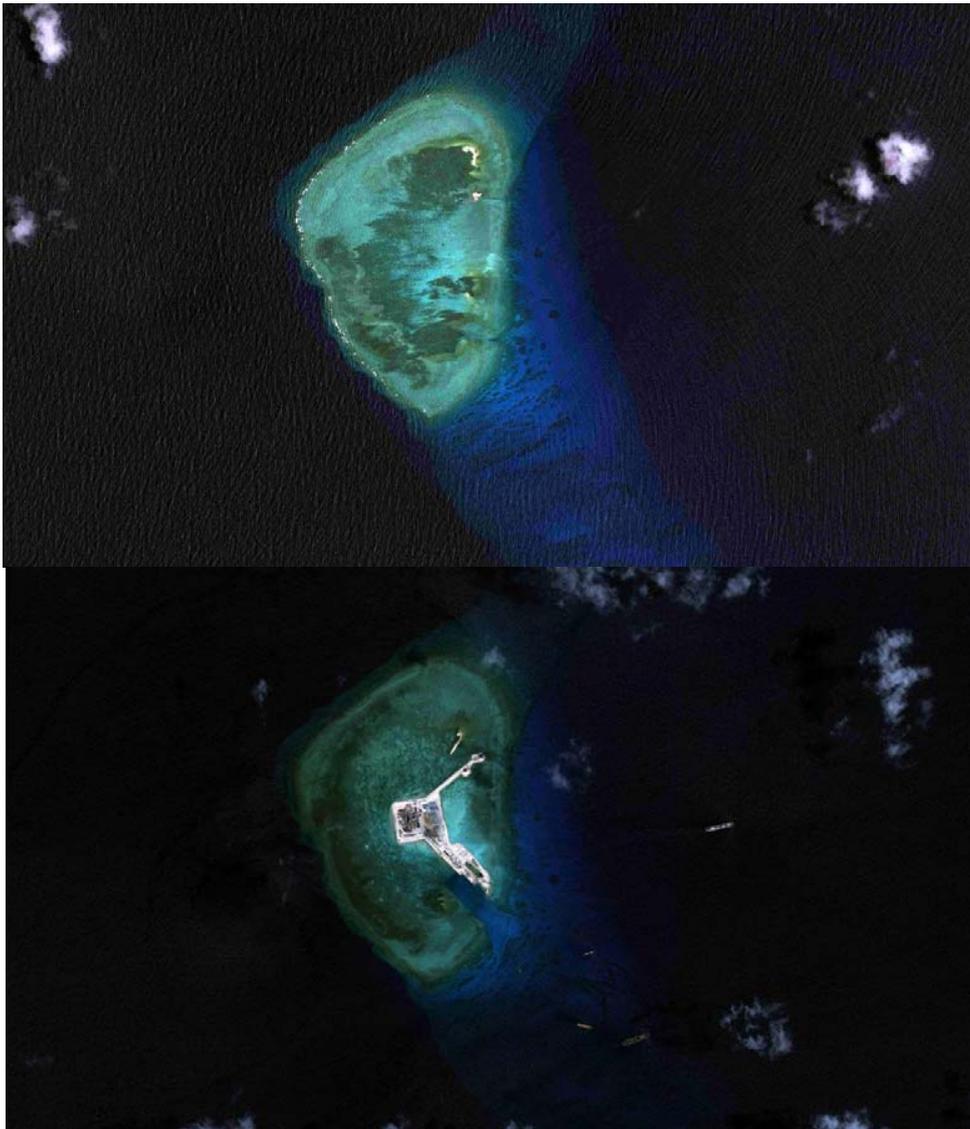


Fig 20: Gaven Reef. Two images show the transformation at Gaven Reef, the top was taken 1 September 2007 and the bottom 17 March 2015. Picture source is DigitalGlobe, available via the CSIS Asia maritime Transparency Initiative <http://amti.csis.org/gaven-reef-tracker/>.

## 7. Fiery Cross Reef

Fiery Cross Reef was initially used only as a base for reclamation activities taking place on other Chinese occupied features. A Fiery Cross to Bear). China began reclamation activities on the reef in August 2014 (Hardy, 2014 November). Sand and rock has been dredged from the seabed to cover virtually the entirety of the reef (Center for Strategic & International Studies, Fiery Cross Reef Tracker).

Prior to the reclamation activities, there was only a single rock above water at high tide. The newly created land mass measures more than 3000 m in length and 200-300 m in width. China's pre-existing facility at Fiery Cross Reef covered an area of just under 11,000 m<sup>2</sup>. The newly enhanced feature is nearly 300 times larger, measures fully 2.65 km<sup>2</sup> (Lee, 2015). Fiery Cross is now the largest area of dry land in the Spratlys. The images below show the progression from its nearly natural state on 14 August 2014 to a completed artificial island in the image from 3 September 2015, complete with airstrip (Figs. 21 - 26).



Fig 21: Fiery Cross Reef. Image taken 14 August 2014. Picture source is DigitalGlobe, available via the CSIS Asia Maritime Transparency Initiative <http://amti.csis.org/fiery-cross-reef-tracker/>.

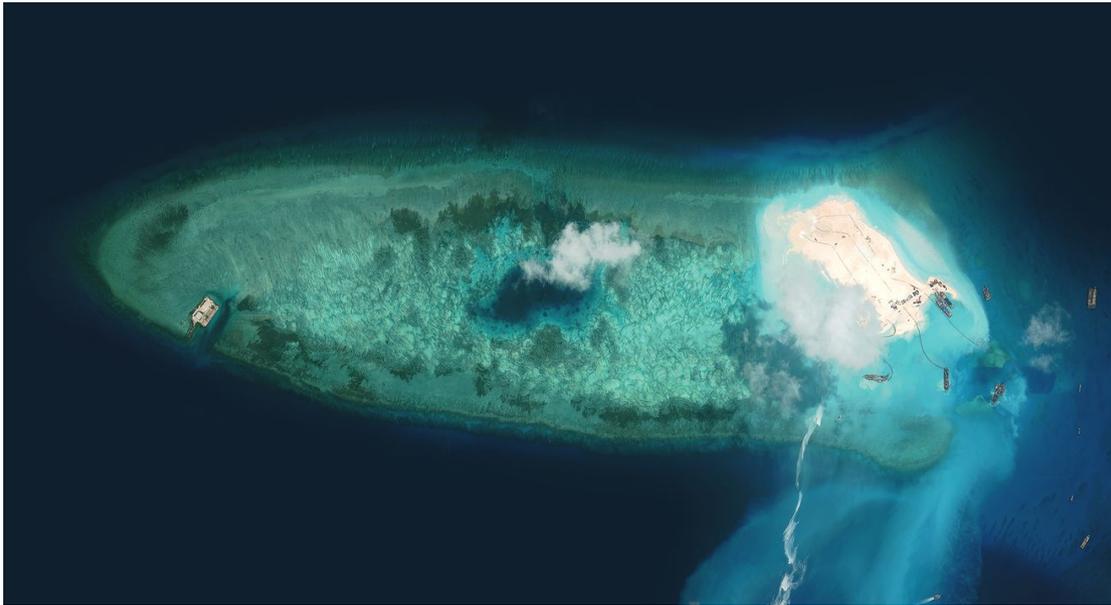


Fig 22: Fiery Cross Reef. Image taken 26 September 2014. Picture source is DigitalGlobe, available via the CSIS Asia maritime Transparency Initiative <http://amti.csis.org/fiery-cross-reef-tracker/>.



Fig 23: Fiery Cross Reef. Image taken 5 November 2014. Picture source is DigitalGlobe, available via the CSIS Asia Maritime Transparency Initiative <http://amti.csis.org/fiery-cross-reef-tracker/>.



Fig 24: Fiery Cross Reef. Image taken 13 December 2014. Picture source is DigitalGlobe, available via the CSIS Asia Maritime Transparency Initiative <http://amti.csis.org/fiery-cross-reef-tracker/>.



Fig 25: Fiery Cross Reef. Image taken 14 February 2015. Picture source is DigitalGlobe, available via the CSIS Asia Maritime Transparency Initiative <http://amti.csis.org/fiery-cross-reef-tracker/>.



Fig 26: Fiery Cross Reef. Image taken 3 September 2015. Picture source is DigitalGlobe, available via the CSIS Asia Maritime Transparency Initiative <http://amti.csis.org/fiery-cross-reef-tracker/>.

*D. Ongoing Construction Activities*

Chinese Foreign Ministry Spokesperson Lu Kang announced on June 16, 2015 that reclamation work would be completed in the following days (Kang, 2015 16 June). As of this date, it appears that reclamation has not stopped, although it may have slowed and there is an increase in activities focused on the large-scale construction of permanent infrastructure on the artificial islands. Images at some of the sites also show new structures including reinforced seawalls and multi-story concrete buildings under construction on these artificial and newly-created islands (Lee, 2015).

In order to support construction and infrastructure projects, China has completely destroyed large sections of coral reef in order to create deep channels through which ships can travel. Based on the images available of the construction projects, it appears that China is planning for a sustained presence and human activities on the artificial islands, including the use of large ships and potentially aircraft, all of which have their own environmental consequences.

## VI. The Mechanisms of Harm and Effects of Land Reclamation in the South China Sea

### A. Effects on the Coral Reefs Being Reclaimed

#### 1. Land Reclamation Buries Coral Reefs

The most obvious and permanent damage from the land reclamation activities at these reefs is the direct burial and loss of the living reef habitat. As related above, reclamation entails the dumping of large volumes of fill material dredged from the surrounding area, crushing and destroying extensive tracts of reefs in the process.

The destruction of the shallow reefs (commonly the reef flat zone) due to reclamation will depress net productivity levels of the entire reef system as what remains is the peripheral reef slope zone, which is described as the least productive zone in the coral reef (Klumpp and McKinnon, 1989). Reclamation of the reef flat also results in the loss of coral species such as *Goniastrea aspera* that typically inhabit the shallower depth, thereby altering the community structure and functionality of the entire reef (Baird et al., 2003). Additionally, connectivity between different reef zones is disrupted, impairing the ability of the deeper reef zone to repopulate and regenerate (Baird et al., 2003). Life cycles of fishes such as wrasses of the genus *Halichoeres* are also disrupted, as the juveniles take refuge in the shallows before migrating to the deeper reefs (Nagelkerken and van der Velde, 2002).

The diversity of the coral reefs in the Spratly Islands is known to support a multitude of species, including those threatened by extinction. Immobile organisms such as corals are at high risk, since they are unable to evade the impacts of land reclamation and dredging, and are likely to be used as fill material or buried under it. Coral species, such as *Leptoseris kalayaanensis* (which is likely endemic to the South China Sea and the Spratly Islands), will be most endangered. Other vulnerable coral species, such as *Acropora dendrum* and *Acropora donei*, are not tolerant to fluctuations in water quality due to increased sediment or altered light levels and recovery from such disturbances cannot be assumed. Recovery for some coral species takes a long time, since these organisms typically exhibit very slow growth rates (Darling et al., 2012; Carpenter, 2014).

#### 2. Land Reclamation Smothers Reefs Through Sedimentation

Land reclamation also smothers those reefs which are not completely buried due to the presence of increased amounts of suspended sediment from the reclamation and dredging activities in the waters (PIANC, 2010). Coring of the reef and seabed as well as dumping of the materials on submerged reefs generate sediment particles that float and drift with the water current before sinking and settling to blanket and smother live corals and other immobile or slow-moving species over a wider area, interfering with their respiration, feeding and reproduction (Rogers, 1990; Weber et al., 2006).

While corals have varying degrees of sediment-rejection abilities, such as mucus secretion and ciliary action (Stafford-Smith and Ormond, 1992), the large volumes of sediment generated by reclamation activities like those China is undertaking are simply too overwhelming and taxing to remove, and will kill the corals by smothering them, clogging

their feeding and respiration valves and shading them from getting enough sunlight to photosynthesize.<sup>1</sup>

Excessive sedimentation affects all life stages of corals, with wide-ranging lethal and sub-lethal effects (e.g. Erfteimeijer et al., 2012). Over time, impairment or death can result (Dodge and Vaisnys, 1977; Wesseling et al., 2001). Effects on coral range from decreased larval recruitment and settlement, to tissue damage and entire colony mortality. Increased sediment levels heighten the susceptibility of corals to pathogens and lead to an increased prevalence of coral diseases (Pollock et al., 2014). Juvenile coral colonies, which are important for the maintenance of reef populations, are especially at risk of burial by sediment due to their small size.

These effects are especially pronounced when the sediment in question is constituted of mud and silt-sized sediment particles, which are easily released from the freshly broken surfaces of dredged limestone or corals (Erfteimeijer et al., 2012). Such sediment can be expected to have been released as a result of China's land reclamation activities. These particles bind together easily and enable the development of bacteria on corals (PIANC, 2010). While many corals have the ability to get rid of small amounts of sediment that accumulate on them (Stafford-Smith and Ormond, 1992), high sediment loads are energetically taxing to remove, with corals exhibiting increased respiration rates, decreased photosynthetic rates, and reduced photosynthetic efficiencies (Philipp and Fabricius, 2003; Browne et al., 2015). Ultimately, heavy sedimentation affects the community structure of reefs, and in the long term leads to the formation of one which has less coral species, reduced cover, inhibited growth and impaired productivity (PIANC, 2010).

### 3. Land Reclamation Causes Excessive Nutrient Loading of Coral Reefs

The disturbance of the reef and seabed by dredging and reclamation releases organic matter and pollutants that were once physically and chemically bound with the bottom sediment particles, thus contaminating the water column and reducing overall water quality (Eggleton and Thomas, 2004; PIANC, 2010). At the same time, it liberates nutrients that have been trapped in the seabed (Kalnejais et al., 2010).

Nutrients act as fertilizers to stimulate the proliferation of algal cells. Large amounts of these nutrients can cause the uncontrolled proliferation of macroalgae and phytoplankton, which can lead to the smothering and abrasion of corals, and the rapid exhaustion of dissolved oxygen levels in the newly reclaimed areas (Tomascik and Sander, 1985; Bell, 1992). In addition, the presence of substantial amounts of algae in reef systems creates impacts on coral fecundity, recruitment, survival of larvae and juvenile corals, and coral community structure (Hunte and Wittenberg, 1992; Wittenberg and Hunte, 1992; Kuffner et al., 2006). Physical contact with algae can even lead to debilitating diseases in corals (Nugues et al., 2004). The sustained enrichment of nutrients to the reef eventually results in a community phase shift, with areas that were once coral-dominated becoming algal-dominated, triggering a cascade of ecological implications.

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<sup>1</sup> Though coral themselves do not photosynthesize, they house micro-algae, creating a symbiotic relationship that provides shelter and carbon dioxide to the algae while supplying oxygen and other nutrients to the coral.

*B. Systemic Effects of Land Reclamation*

1. The Importance of the Reefs of the Spratly Islands to the Ecosystem of the South China Sea as a Whole

The coral reefs and atolls of the Spratly Islands, Pratas Islands and Paracel Islands are the only offshore reef formations within the Large Marine Ecosystem of the South China Sea. Unlike the near-shore reefs along the sea's coastal rim, these offshore reef formations have until now, been generally spared from the intense anthropogenic impacts commonly associated with coastal development. The loss of seven major reef features to land reclamation within 1.5 years will have a huge impact on the ecological integrity of not only the Spratly reefs but also the South China Sea. Human activity on these artificial islands will continue to challenge the ecological and environmental status of the marine system.

The reefs of the Spratly Islands are known to be especially biodiverse; they are home to 333 species of coral, accounting for 58% of the total coral species diversity in the South China Sea (571 species) and 55% of that in the Coral Triangle<sup>2</sup> (605 species). This is nearly as many species of coral as can be found in Australia's Great Barrier Reef (411 species), a well-known megadiverse ecosystem (Huang et al., 2014; World Wildlife Fund, 2015). Fifty-six of the coral species present in the Spratlys are vulnerable to extinction (IUCN, 2015) and one, *Leptoseris kalayaanensis*, is likely endemic to the South China Sea and the Spratly Islands (Licuanan and Aliño, 2009; Hoeksema et al., 2010). The Spratly group of reefs has the highest levels of coral species biodiversity. An analysis of 16 reef areas within the South China Sea, both near-shore and offshore, indicated that they were compositionally distinct from one another<sup>3</sup> (Huang et al., 2014) and are at higher risks of local extinction if they are destroyed.

The Spratly reefs are highly interconnected and play key roles in maintaining and replenishing regional biodiversity (McManus, 1994; Carpenter, 2014). Modeling simulations show that this reef cluster is a significant upstream source of genetic diversity for the Coral Triangle (Kool et al., 2011) as larvae originating from the Spratlys are spread by currents across the central South China Sea as well as to the western shore of Luzon and Palawan and beyond into the seas of the Philippines. The Spratlys are likely an important source of larvae of the hard coral *Acropora millepora* for the Philippine's Palawan reefs as well as South China Sea's most isolated reefs (Dorman et al, 2015) and larval connectivity of this species is possible throughout the South China Sea and into the Coral Triangle. In a reef system like this, the loss or degradation of even one reef creates a gap in the overall connectivity of all the reefs in the Spratlys, as well as to the other reefs in the South China Sea. Land reclamation has fragmented the Spratly reef system and will continue to impair its ecological function.

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<sup>2</sup> The "Coral Triangle" refers to a roughly triangular area of the tropical marine waters of Indonesia, Malaysia, Papua New Guinea, Philippines, Solomon Islands and Timor-Leste.

<sup>3</sup> The Spratly reefs support coral species that have limited distribution outside of the Spratly group. The Spratly reefs have a distinct species composition, making them unique as compared to other reef systems in the South China Sea.

The South China Sea depends on the Spratly reefs for supplies of larvae and young stages of fish and invertebrates, and they are particularly important in terms of replenishing species harvested from the coastal, near-shore reefs, which are more accessible and easily exploited (Dai and Fan, 1996; Carpenter, 2014). As a source of fish larvae, the Spratly reefs contribute to the fish catch production of the South China Sea, which is estimated at 5 million tonnes per year – about 10% of global catch (LME, 2004 in UNEP, 2005).

In general, the reefs provide valuable ecosystem services (e.g., provision of food and raw materials, climate regulation, waste bioremediation, nutrient cycling). If those services were monetized, their value would exceed US\$ 1157 per hectare per annum (UNEP, 2007), which is the estimated figure for the near-shore reefs of States bordering the South China Sea, most of which are under heavy anthropogenic pressures and in various stages of degradation (Burke et al., 2011). The value of the ecosystem services these near-shore reefs provide is therefore substantially less than the Spratly reefs that have until now been relatively free from anthropogenic pressure.

## 2. The Degradation of Reefs Caused by Land Reclamation Systemically Affects the South China Sea Ecosystem

Although the Spratly reefs have largely been spared the anthropogenic impacts associated with coastal development, they are nevertheless under stress due to climate change (Burke et al., 2011). China's land reclamation in the Spratlys significantly add to this existing stress. The specific mechanisms by which coral reefs and associated ecosystems are harmed by land reclamation is discussed throughout Section VI. This subsection focuses on the effects caused by land reclamation on the South China Sea ecosystem as a whole.

Most immediately, by destroying reef, seagrass and soft bottom habitats, land reclamation fragments the ecology of the Spratly Island reefs. Large scale fragmentation of the Spratly reef mosaic where almost entire reefs are buried harms the reproductive cycles of reef species throughout the South China Sea as increasing distances between larval sources and sinks will suppress connectivity between sub-populations (Almany et al., 2009). This is because the Spratlys are an important source of larvae for reef reproduction throughout the Sea. Therefore, the loss of biodiversity resulting from the degradation of the coral reefs will span geographical scales beyond that of the reefs that were directly reclaimed.

With the collapse of connectivity, the remaining marine communities are forced to rely on self-recruitment (i.e., breeding within the same population and settling of larvae in the same reef) to sustain their respective populations. Eventually, this will severely depress larval sources and supplies that are critical for the maintenance of ecologically and economically important downstream populations (e.g. Roberts, 1997), especially those in the South China Sea. In the long term, this will cascade to a reduction in the ecological integrity of the reef populations in the Spratly Islands and the South China Sea, and ultimately the Western Indo Pacific coral reef meta-population (Scheffer et al., 2012).

In addition to harming reefs' reproductive cycles, land reclamation terminates the reefs' provision of numerous physical, biotic and biogeochemical services (Moberg and Folke, 1999). Recent estimates in March 2015 place the total destruction of the Spratly reef ecosystems to date at 311 hectares. Such destruction has been valued at an annual loss of US\$100 million to countries in the South China Sea (Gomez, 2015). The destruction of

marine habitats at the sites will compromise the ecological integrity of the Spratly ecosystem due to the loss of ecosystem services. The remainder of this subsection highlights the most important ecosystem services provided by coral reefs and the systemic impacts that result from their termination.

Degradation of reefs negatively impacts the provision of nitrogen fixation<sup>4</sup>, which controls algal growth. Controlling algal growth benefits not only the coral reef habitat itself but also the adjacent habitats and communities (D’Elia, 1988; D’Elia and Wiebe, 1990; Sorokin, 1990). When larger and fleshy macroalgae overproliferate, they smother reef-building corals and seagrasses by their quick growth and biomass increase (Done, 1992; Nugues and Bak, 2006; Burkepile and Hay, 2008), and also facilitate the spread of coral disease (Smith et al., 2006; Thurber et al., 2012). They shade and deprive corals and seagrasses of sunlight and colonize space available for coral larvae and seagrass seeds to establish (McCook et al., 2001; Kuffner et al., 2006). This results in a phase shift towards an algal-dominated habitat (Hughes, 1994; Bellwood et al., 2004; Mumby et al., 2006) that supports less diversity and is ecologically less vibrant compared to coral reefs (McCook, 1999). Beyond a certain “threshold”, it is almost impossible for an ecosystem to revert to a coral-dominated state (Mumby et al., 2007).

Moreover, dredging releases nutrients trapped and accumulated in the sediment over time leading to additional nutrient inputs into the ecosystem (Lohrer and Wetz, 2003; Nayar et al., 2007), and further taxing the ecosystem’s already impaired nitrogen fixing ability. Simultaneously, the ecosystem will lose grazers, such as sea urchins, due to marine pollution or diseases linked to ballast water discharge from the dredgers and support vessels involved with the reclamation (Bak et al., 1984). It also leads to the proliferation of algae, further exacerbating the harm caused by the degraded reef’s inability to fix sufficient nitrogen.

The degradation of the coral reefs also interferes with their role in dissipating wave energy. In this role, reefs create sheltered environments from strong sea-currents and tides conducive for mangrove, seagrass and soft bottom habitats to develop (Moberg and Folke, 1999). Reclamation will have altered the hydrodynamics of the Spratlys cluster, and areas that were once shielded from the impact of storms are now exposed with a higher risk of erosion (e.g. Kuang et al., 2011). This reduces the extent of areas where such ecosystems can form, further impairing their ecosystem roles.

Additionally, the future expected increase in vessel activity to the artificial islands will affect the Spratly reefs acutely through marine-based pollution and ship damage. At the same time, more pollutants will be discharged from land by the increased human population and activity.

### 3. Land Reclamation Harms Corals by Increasing Turbidity and Light Attenuation

Dredging of the seabed to provide fill material for reclamation disturbs and causes the re-suspension of bottom-settled sediment into the water column (e.g. Ruffin, 1998; PIANC, 2010), generating large plumes of suspended particles that elevate turbidity and reduce clarity

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<sup>4</sup> Corals contribute to nitrogen fixation by converting dissolved nitrogen gases in the water to ammonium ions and other derivatives, which are essential for the synthesis of biological molecules in all organisms. When less nitrogen is fixed by corals, it becomes more available to algae.

of the water column. These plumes can remain suspended for long periods depending on the scale of the reclamation activities, sediment particle size and tidal pattern.

Although different coral species demonstrate varying tolerances to turbid conditions, the overall effect is negative (Erftemeijer et al., 2012). Suspended sediments impair fertilization, as well as the survival and settlement of coral larvae (Gilmour, 1999). The sediment particles can also abrade coral tissues (Anthony and Fabricius, 2000). The increased amount of suspended sediments also reduces the level and quality of light that can penetrate the water column, severely affecting the photosynthetic efficiency of corals and hampering their nutritional requirements. Over time, coral growth and diversity will be reduced, leaving only certain species which are more tolerant to low light conditions (Anthony, 1999; Dikou and van Woesik, 2006; Browne et al., 2015). This diminishes the number of reef species that can be supported and depresses biodiversity, which culminates in the loss of an immense range of ecosystem goods and services that can only be derived from healthy ecosystems (Beaumont et al., 2007).

#### 4. Land Reclamation Results in Harmful Hydrodynamic Changes

The introduction of large amounts of dredged spoil will have modified the bathymetry and altered the flow and velocity of currents around the reclaimed reefs. Long-term modification of local hydrodynamic influences (water flow direction and speed) will cause changes in sediment erosion or accumulation patterns (PIANC, 2010). The accumulated sediment creates a land mass which obstructs currents and diverts flow away from downstream reefs, causing a decrease in local water quality. This will affect the filter feeding of corals as reduced water velocity brings less plankton to them (Sebens and Johnson, 1991). A change in the current flow patterns will change the dispersal of reef larvae to and from other reefs in this large cluster.

##### C. Species Dependent on the Reef

###### 1. Overview of Species Dependent on the Reef

Coral reefs provide food, shelter, nursery and spawning grounds to thousands of marine species (Carpenter, 2014). The transformation of a structurally complex reef framework into a featureless environment by burying the reef with spoils deprives these reef-dependent species of a critical food source, habitat and nursery ground (Graham and Nash, 2013). For example, reef fish larvae depend on chemical cues emitted from reefs for navigational purposes, while juveniles of numerous fishes utilize the crevices of shallow reefs as nurseries, and shift to deeper parts of the reef as they mature (Nagelkerk et al., 2000; Atema et al., 2002). Other small organisms such as crabs and shrimps, which are important food sources for larger marine animals, also live within the intricate network of the coral reefs (Carpenter, 2014). The obliteration of reefs effectively compromises the developmental stages of a wide variety of species, with severe downstream effects, such as the decline in herbivorous fishes due to the loss of reefs, causing the proliferation of macroalgae, which can then lead to further decline in coral populations (Moberg and Folke, 1999; Knowlton, 2001).

Non-coral organisms that are not especially mobile will be adversely affected by ongoing dredging and reclamation, especially benthic organisms closely associated with coral reefs and seagrasses. For example, giant clams, such as *Tridacna gigas*, are dependent on

these habitats for food and shelter (Gomez, 2015), while they themselves also contribute food, shelter, and reef-building material to the ecosystem (Neo et al., 2015). Recovery of natural populations is usually slow, due to the lack of reproductively mature populations and the susceptibility of juveniles to natural and human disturbances. Less mobile species, such as various species of seahorses (e.g., *Hippocampus histrix*, *H. kelloggi*, *H. spinosissimus*), listed as ‘Vulnerable to extinction’ in the International Union for Conservation of Nature (IUCN) Red List the three Threatened levels on the Red List in order of increasing risk of extinction are Vulnerable, Endangered, and Critically Endangered; IUCN, 2015), have a limited distribution and dispersal range. The destruction of their habitats through dredging and reclamation threaten their demise.

Highly mobile species will also be negatively impacted by the China’s dredging and reclamation activities. Some endangered marine species, such as the Green turtle (*Chelonia mydas*), are highly dependent on seagrass habitats for food. Other marine species utilize coral reefs and seagrass fields as breeding and nursery grounds (Benson et al., 2007; Castro and Mejuto, 1995; Chang et al., 1997). Marine turtles such as the green turtle (*Chelonia mydas*), leatherback turtle (*Dermochelys coriacea*), and hawksbill turtle (*Eretmochelys imbricata*) utilize the sandy shore for nesting (Carpenter, 2014). In addition, some mobile species such as the reef manta ray (*Manta alfredi*) (Vulnerable in the IUCN Red List) are known to revisit the same reefs repeatedly (Couturier et al., 2011) since reefs function as shelters and cleaning stations (Oliver et al., 2011; Sikkel et al., 2004).

Highly mobile marine species also utilize the Spratly Islands as part of their migratory pathways, including various vulnerable and endangered species such as the thresher shark (*Alopias pelagicus*), hammerhead shark (*Sphyrna mokarran*), whale shark (*Rhincodon typus*), sei whale (*Balaenoptera borealis*) and Indo-Pacific humpbacked dolphin (*Orcaella brevirostris*). These animals are known to travel immense distances (Benson et al., 2007; Kohler et al., 2002) and the shallow reefs of the Spratlys are sited along the migratory pathways of many of these species. Clearly, the obliteration of coral reefs and seagrass habitats will place compounded stress on the vulnerable marine species that are directly or indirectly associated with these critical habitats.

The impacts discussed above are among the most immediate consequences to be expected as a result of China’s land reclamation activities. There are other risks to endangered species that could occur over a longer term since the reclaimed reefs will no longer be suitable as breeding and nursery grounds for the endangered species, especially for those where the adults return to same location to breed. The dredging and reclamation work at the reefs could impair the navigation mechanism of some species and affect their migration. Turtles for example, navigate through chemoreceptive piloting (Carr, 1972; 1984), and the dredging and reclamation work around the reefs may have altered the chemical cues within water body and possibly disrupt their migration. Noise pollution from the on-going work and changed marine acoustics may affect the navigation of passing whales and dolphins (Gordon et al., 1996).

## 2. Profile of Vulnerable and Endangered Species in the South China Sea

The conservation or Threatened status of many of the marine species of the South China Sea is unknown. This is because only a few marine species groups have been assessed under the IUCN Red List Criteria. The reef building corals, however, have all been assessed

and there are 68 species of corals that are listed as Vulnerable and that occur in the Spratly Islands and around the South China Sea. Sea cucumbers that are typically exploited have also been assessed and both the Sandfish (*Holothuria scabra*) and the Golden Sandfish (*Holothuria lessona*) are considered Endangered in the region. In addition, five other species in the region have been found to be Vulnerable to extinction. These are the Deepwater Redfish (*Actinopyga echinites*), the Surf Redfish (*Actinopyga mauritiana*), the Harry Blackfish (*Actinopyga miliaris*) the White teatfish (*Holothuria fuscogilva*) and the Curryfish (*Stichopus herrmanni*). Another important group of invertebrates found in this region that includes threatened species are the Giant Clams. This includes the Giant Clam (*Tridacna gigas*) that is considered Vulnerable to extinction. The Small Giant Clam (*Tridacna maxima*) and the Fluted Giant Clam (*Tridacna squamosa*) are also in the region and are considered in need of conservation action. Very few other invertebrate species groups have been assessed under the Red List Criteria and many more currently unrecognized threatened species are likely to be found in the South China Sea and be impacted by island building land reclamation in the region.

All sharks and rays of the South China Sea have been assessed under Red List Criteria and seven species are considered threatened. This includes the Vulnerable Pelagic, Bigeye and Common Thresher Sharks (*Alopias pelagicus*, *Alopias superciliosus*, *Alopias vulpinus*), the Oceanic Whitetip shark (*Carcharhinus longimanus*), the Sandbar Shark (*Carcharhinus plumbeus*), the Shortfin and Longfin Makos (*Isurus oxyrinchus*, *Isurus paucus*), the Smooth Hammerhead (*Sphyrna zygaena*), the Great White Shark (*Carcharodon carcharias*) and the Whale Shark (*Rhincodon typus*). Two species of sharks are at the higher Endangered threat level including the Scalloped and Great Hammerhead sharks (*Sphyrna lewini* and *S. mokarran*). Both the Manta rays (the Giant Manta Ray, *Manta birostris* and the Reef Manta Ray, *M. alfredi*) that occur in the central South China Sea are listed as Vulnerable. Many additional shark and ray species that are threatened may be found in the Spratly Island region but have not recently been observed there, while the majority of over 65 sharks and rays that are found in the South China Sea are considered in need of urgent conservation action. Many of the shark and ray species in the South China Sea listed as Threatened by the IUCN are also protected by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). This includes the Oceanic Whitetip shark (*Carcharhinus longimanus*), the Whale Shark (*Rhincodon typus*), Great White Shark (*Carcharodon carcharias*) and the two hammerhead sharks (Scalloped and Great Hammerhead sharks (*Sphyrna lewini* and *S. mokarran*). In addition, both Manta rays (the Giant Manta Ray, *Manta birostris* and the Reef Manta Ray, *M. alfredi*) are protected by CITES.

Only a handful of bony fish families have been assessed under the IUCN Red List Criteria. So far, we know of one species, the Humphead Wrasse (*Cheilinus undulatus*) in the South China Sea listed as Endangered. In addition, there are nine species listed as Vulnerable. These include the Green Humphead Parrotfish (*Bolbometopon muricatum*), the Humpback grouper (*Cromileptes altivelis*), five species of sea horses (*Hippocampus comes*, *H. histrix*, *H. kuda*, *H. spinosissimus* and *H. trimaculatus*), the Blue Marlin (*Makaira nigricans*) and the Bigeye Tuna (*Thunnus obesus*). Several Vulnerable species that are reported in areas nearby to the Spratly Islands and likely to occur there include the Derawan Comb-tooth-Blenny (*Ecsenius tricolor*) and the Blacksaddled Coral Grouper (*Plectropomus laevis* which is reported on Scarborough Shoal). In addition, many species of bony fishes in the region are considered Near Threatened and in urgent need of conservation action. These include the Duskytail Grouper (*Epinephelus bleekeri*), the Orange-spotted Grouper (*Epinephelus coioides*), the Brown-marbled Grouper (*Epinephelus fuscoguttatus*), the Malabar Grouper

(*Epinephelus malabaricus*), the Camouflage Grouper (*Epinephelus polyphekadion*), the Leopard Coral Grouper (*Plectropomus leopardus*), Bower's Parrotfish (*Chlorurus bowersi*), the Blackspot Tuskfish (*Choerodon schoenleinii*), the Yellowtail Parrotfish (*Scarus hypselopterus*), the Narrow-barred Spanish Mackerel (*Scomberomorus commerson*), the Albacore Tuna (*Thunnus alalunga*) and the Yellowfin Tuna (*Thunnus albacares*).

Most of the higher vertebrates such as marine mammals and sea turtles have been assessed under Red List Criteria. In the South China Sea, the Sei Whale (*Balaenoptera borealis*) and the Blue Whale (*Balaenoptera musculus*) are considered Endangered, while the Sperm Whale (*Physeter macrocephalus*) is considered Vulnerable to extinction. In addition, Indo-Pacific Finless Porpoise (*Neophocaena phocaenoides*) is marginal to the region and is considered Vulnerable to extinction. Four species of marine turtles that occur in the South China Sea are considered threatened: the Green Turtle (*Chelonia mydas*), the Hawksbill Turtle (*Eretmochelys imbricate*), the Leatherback (*Dermochelys coriacea*) and the Olive Ridley (*Lepidochelys olivacea*). One Sea bird, the Swinhoe Storm-petrel (*Hydrobates monorhis*) is found in the disputed region and considered in urgent need of conservation action. The Chinese Sea Snake (*Laticauda semifasciata*) is marginal to the disputed region and is also considered in urgent need of conservation action.

### 3. Effect on Vulnerable and Endangered Species in the South China Sea

In addition to the many direct impacts on threatened species caused by the reef cutting and dredging activities detailed previously in this report, island building reclamation activities will impact threatened species in many ways. The majority of the non-reef building coral species that are found in the region are primarily threatened with over-exploitation in fisheries. The increased habitation and the increased opportunity for fishing activity afforded by the protection and operational bases of these artificial islands and their structures will substantially increase exploitation of these threatened species. Many of these exploited species are strongly impacted by the reef building because they rely on the shallow areas totally eliminated and are also considered very valuable in fisheries. Examples of these highly desirable species include all the species of Sea Cucumbers, the Giant Clams and all of the Sea Horses. These species are likely to be heavily exploited in the much depleted shallow areas remaining on these reefs. Threatened species that are likely to be more heavily over-exploited in the adjacent coral reef areas are the Humphead Wrasse, the Humphead Parrotfish, other wrasses and parrotfishes, and the groupers. Many threatened species are reef visitors or frequent the oceanic waters just offshore of the reefs and these will be subjected to increased over-exploitation with greater human occupation. These include most of the sharks and rays which are in urgent need of conservation action, the billfishes and tunas, and all the marine turtles. Finally, increased human habitation and shipping traffic will disturb threatened marine mammals.

#### D. Effects on Reef Systems Adjacent to Those Being Reclaimed

##### 1. Dredging Directly Impacts the Health and Functioning of Adjacent Reefs

The removal of spoils from portions of the reef system close to the reclamation sites causes permanent damage to them. This is because dredging a coral reef breaks up the reef substrate and indiscriminately removes and kills corals and other reef associated species. The immediate surrounding reef that is not directly fractured will also be impacted by the

mechanical force and vibration energy of the equipment and vessels involved with the reclamation, resulting in destabilization of coral colonies as their attachment to the substrate gets weakened, coral fragmentation and the generation of coral rubble fields. This leads to a significant reduction in the structural integrity of the coral reef. The loss of complex structures impacts the ability of coral reefs to support other reef-associated organisms of economic value, such as fish and echinoderms (Graham and Nash, 2013).

Dredging destabilizes the structure of the immediate surrounding reefs on the same reef system and reduces habitat complexity as they fragment into rubble. The rubble pieces are easily tossed about by currents and coral larvae that settle on them are highly likely to get killed (Fox et al., 2003). As the unstable reef substrate shifts about, they can also abrade coral tissues and depress reef recovery. Deepening of dredged seabed makes it less suitable for the establishment of corals as they are only able to inhabit areas with sufficient sunlight penetration.

Dredging activities also depress water quality of adjacent reefs on the same reef system by unsettling and re-suspending the bottom sediment, creating plumes which persist due to the reduced hydrodynamics in the area. These plumes lower the amount and quality of light through the water and affect the physiological and photophysiological capabilities of species such as corals (PIANC, 2010; Flores et al., 2012; Koh et al., 2014). Nutrients are also liberated from the disturbed sediment, leading to the proliferation of algae and subsequent smothering of other marine life.

Dredging also alters the physical environment of the adjacent reefs on the same reef system (Erftemeijer and Lewis, 2006; Doorn-Groen, 2007; PIANC, 2010) by changing the local hydrodynamic profile and affecting flow patterns in the wider area. The changes caused to the hydrodynamic profile of the area adjacent to the dredging negatively impacts the reproductive cycle of many species living in the South China Sea. This is so because the majority of the marine species in the South China Sea (such as corals and crustaceans) have a pelagic larval phase in their early life. Fertilized eggs develop into mobile pelagic larvae and float with the currents until they are ready to settle to the bottom and continue development to adults. This helps with the dispersal and distribution of the species. The change in hydrodynamic flow will affect the larval settlement pattern and their survival rates. Changed current speed and direction may divert them to areas that are not favorable for settlement and development (Qian et al., 1999; Ellien et al., 2004; Carpenter, 2014). Because the Spratly Island reefs provide a source of larvae that replenishes reef life and fisheries in the South China Sea (Carpenter, 2014) and the Philippines (Kool et al., 2011), the interference with the reproductive cycles of these species will affect the health of their populations throughout the region.

## 2. The Impaired Function of Adjacent Coral Reefs Has Wider Systemic Ecological Effects

The degradation of adjacent coral reefs due to reclamation activities will result in habitat fragmentation as gaps increase the isolation of neighboring reef systems and make them farther from each other (Valadez-Rocha and Ortiz-Lozano, 2013). This will disrupt the biological connectivity within the reef system of the Spratly cluster and also the South China Sea because the increased distance barrier interferes with the movement of species between reefs, including those of the same and different reef systems, reduces genetic flow in the region and increases the probability of local extinctions (Tilman et al., 1994; Carpenter,

2014). Currently, larval connectivity among reef systems in the Spratlys is high due to adequate mixing and strong current flows in the region (Morton and Blackmore, 2001; Carpenter, 2014).

Relatedly, the loss of coral reefs and the corresponding loss of larval source sites will reduce the net larval supply in the region required to sustain functional populations (Jones, 1990; Almany et al., 2009), severely affecting juvenile recruitment within the Spratly reefs and the adjacent reef systems. In addition to negatively influencing the reproductive cycle of the reefs in general, the reduction of larval sources can retard the recovery of coral reefs (Nystrom and Folke, 2001) following disturbances such as mass bleaching events (i.e., large scale loss of unicellular algae from corals that compromises their health, which are usually triggered by acute local impact and/or water temperature rise from global warming) and storms. It also retards recovery when community structure becomes dominated by macroalgae (Done, 1992; Hughes et al., 2007), which is a risk associated with reclamation activities.

#### *E. Seagrass Habitats*

Seagrass habitats provide food and shelter to many commercially important species such as rabbitfish (family Siganidae) and also enhance nutrient cycling, water quality and sediment stabilization (Duarte, 2002). Seagrasses within the Spratly Islands are widespread and occupy an area of at least 22 km<sup>2</sup> (Fortes, 2004). Seagrass meadows have been documented at Thitu Island, Flat Island, Nanshan Island, Northeast Cay, West York, Loaita Island, Panata Island and Itu Aba Island. (Dai and Fan, 1996; Rollon et al., 2001). It is reasonable to infer that the majority of reefs in the Spratly Islands likewise support additional seagrass meadows.

##### 1. Dredging Directly Impacts the Health and Functioning of Seagrass Beds

Dredging and reclamation works uproot and bury large tracts of seagrasses. This results in direct loss of the habitat through physical removal or burial. The complete burial of seagrass meadows has been linked to significant decrease in shoot densities and death of the plants after two weeks (Cabaco et al., 2007). Evidence indicates that seagrasses might not recover after burial (Duarte et al., 1997; Montefalcone et al., 2011) and that the habitats can be replaced by opportunistic macrophytes which are less diverse (Montefalcone et al., 2015).

Reduced water quality and increased sedimentation, which occur even when seagrasses are not directly buried, also affect the physiological responses of seagrass. Sedimentation can decrease the shoot density of seagrass meadows (Yaakub et al., 2014), while increased nutrient loading can impair the growth and survival of seagrass (Govers et al., 2014). Elevated levels of suspended sediment in the water also impact filter feeders that live in seagrass meadows such as bivalves by clogging their filtering organs (Erftemeijer and Lewis, 2006).

Aside from direct burial, the decrease in light penetration due to sediment plumes, which increase turbidity and nutrient-induced phytoplankton blooms, will cause primary production and photosynthetic efficiencies of seagrasses in the vicinity to decline (Doorn-Groen, 2007; Yaakub et al., 2014). Eutrophication (i.e., an excessive amount of nutrients in

the water) will also promote the growth of epiphytic macroalgae, which competes with the seagrasses for sunlight (Gacia et al., 1999). Dredging activities can also alter sediment composition and hydrodynamic patterns, which lead to erosion (Erfemeijer and Lewis, 2006) exacerbated by the decrease in seagrass cover that originally helped to stabilize the sediments, keeping them in the seabed (Marba et al., 2015).

## 2. The Impaired Function of Seagrass Beds Has Wider Systemic Ecological Effects

Seagrass meadows are good nursery grounds for juveniles of many species that live on reefs as adults (Birkeland, 1985; Nagelkerken et al., 2000). The destruction or impairment of seagrass beds thus creates impacts on the ecological integrity of the area by reducing the availability of resources and shelter required for the survival of juvenile marine organisms. The loss of seagrass meadows can cause significant reductions in fish populations (Nagelkerken et al., 2002), along with decreases in overall species richness and biomass associated with seagrass meadows (Montefalcone et al., 2015). Food sources for herbivores such as rabbitfish (Family Siganidae) are also sharply reduced (Unsworth et al., 2008), leading to the populations' decline. Because such herbivores consume macroalgae, their decline is linked with the local proliferation of macroalgae. Predatory animals that move from coral reefs to seagrass beds to forage are similarly impacted by the loss of these habitats (Unsworth and Cullen, 2010).

Seagrasses also absorb nutrients from the water column and help reduce the chances of eutrophication on coral reefs (Hemminga and Duarte, 2000). This includes phosphorus from anthropogenic sources (Nayar, 2015). Seagrasses can also sequester carbon in the form of atmospheric carbon dioxide to mitigate the effects of ocean acidification (Marba et al., 2015). In addition, through biological processes such as excretion and defecation (Ogden and Gladfelter, 1983), seagrass-associated species provide the nutrients required to sustain seagrass and coral reef habitats. The destruction of seagrass habitats thus disrupts nutrient cycling, species composition and ecological functioning in the neighboring habitats.

### *F. Other Soft-Bottom Habitats*

In addition to seagrasses, other soft-bottom habitats, including sandy flats and coral rubble areas, are prevalent in the Spratly Islands, which are home to a variety of organisms such as polychaetes (segmented worms), crustaceans (e.g., crabs and shrimp), echinoderms (e.g., brittlestars, sea urchins and sea stars), and mollusks (e.g., snails and clams) (Byers and Grabowski, 2014; Takada et al., 2014). In general, soft-bottom benthic communities consist of well-flushed sandy flats dominated by filter feeders and lower-flushed mud flats with enriched organic matter dominated by deposit feeders, also known as bottom feeders (Byers and Grabowski, 2014).

These habitats provide important ecosystem services. Unvegetated soft-bottom habitats support cyanobacterial communities, which are important contributors to primary production, nitrogen fixation and reef building (e.g. Boucher et al., 1998; Charpy et al., 2012; Diez and Ininbergs, 2014). These processes contribute to the cycling of essential elements such as carbon and nitrogen, which are necessary to sustain the growth and reproduction of organisms. Both subtidal (i.e., permanently submerged habitats) and intertidal soft-bottom habitats (i.e., coastal habitats that are exposed to air at low tide) are commonly used as

feeding and nursery grounds as well as spawning grounds, especially by invertebrates (Seitz et al., 2014). The invertebrates found in intertidal areas also serve as an important food source for migratory birds that visit Spratly Islands such as the streaked shearwater (*Calonectris leucomelas*), brown booby (*Sula leucogaster*), great crested tern (*Sterna bergii*) and white tern (*Gygis alba*) (McManus, 2010).

Dredging and reclamation directly destroy these soft-bottom habitats and their associated fauna. In cases where it does not result in a complete destruction of the habitat, these activities will result in the loss of available habitats for the associated fauna, and will also alter physical characteristics of the habitats in ways similar to that highlighted in the preceding sections.

This directly decreases the abundance and diversity of macrobenthic organisms (Bemvenuti et al., 2005), which are important food sources for other predators. With the liberation of organic matter and pollutants from the sediment, community changes are to be expected, such as the proliferation of cyanobacteria and other opportunistic species that thrive in sub-optimal conditions. The increase in nutrient levels can also cause blooms of macroalgae and phytoplankton which can physically smother benthic communities and deplete dissolved oxygen levels to dangerous levels (Ellis et al., 2000; Byers and Grabowski, 2014).

Crustaceans, which are among the most dominant groups in soft-bottom habitats, are especially affected (Navarro-Barranco and Guerra-García, 2015). They constitute an important link in food webs as grazers, predators and prey for many benthic and demersal fishes (Duffy and Hay, 2000; Stål et al., 2007; Poore et al., 2014), which in turn have important roles in the coral reef habitats. The destruction of soft bottom habitats obliterates such links and has long-term implications on populations of the fish species that move between both habitats as some decline due to the reduction in crustaceans that they feed on, while others increase because of the lack of crustacean predators.

Higher species loss can be expected from the land reclamation impact in the Spratlys where different types of marine habitats (e.g., soft-bottom habitats and coral reefs) exist in close proximity with one another. For example, soft-bottom benthic communities near coral reefs appear to have the highest species richness as well as the highest number of species that are exclusive to and present only in soft-bottom habitats (Chou et al., 1994). The differences in species composition and richness of soft-bottom habitats that are associated with other marine habitat types suggest that marine habitats are inter-connected, and exert some influence over each other.

#### G. Long-Term Ramifications of Reclamation and Construction Activities

China's land reclamation and island building in the South China Sea will have long-term ramifications for the marine environment. John McManus, a biologist who has been studying the reefs and witnessed the construction activities in the Spratlys, stated that China's activities are "the worst thing that has happened to coral reefs in our lifetime" (Niiler, 2015).

The activities have resulted in the re-characterization of the geological landscape of the South China Sea, potentially altering the flow and pattern of currents, creating artificial land masses where there was previously only open waters for tens of thousands of years. The

activities have resulted in the total destruction of at least seven reefs that have been completely or significantly covered in dredged seabed and coral debris with the additional build-up of concrete barriers and structures. Even though the dredging has stopped, the coral reef in surrounding area has undergone devastating changes. Recovery for reefs affected by the activities is uncertain as recovery rates and patterns for coral are difficult to predict under normal circumstances and they are unlikely to be managed in a way that would foster recovery. The plan for further construction and sustained human presence will inhibit recovery and further damage the marine environment.

1. Re-characterization of the Geological Landscape of the South China Sea

As noted in Section IV above, the reef topography of the South China Sea has taken millions of years to form and has largely remained unchanged for tens of thousands of years. The resulting geographic features that are predominantly submerged are tidal patterns that have remained relatively consistent throughout centuries. The introduction of artificial islands of substantial size where there previously were none will impact the natural patterns that have formed as a result of the natural geographic evolution.

For example, the South China Sea experiences internal wave fields with waves that are greater than 200 metres long in some instances. (Alford, 2015). These waves gain and maintain energy in part because there are no large interceding land masses. These large waves break on coral reefs and interact with each other (Alford, 2015; Zhao, 2004). It is unclear how these artificial islands will affect wave patterns. It is also unclear how waves of such magnitude may impact the artificial islands and to what extent they will be prone to erosion. The re-characterization of the geological landscape also means that coral reef that had once been free of anthropogenic pressure and erosion from land masses will now be exposed to terrestrial runoff and pollutants discharged from the artificial islands built by China.

2. Total Destruction of Portion of Reef Buried by Island Building

The building of artificial islands has resulted in the total destruction of large sections of coral reef. According to one estimate, there is approximately 13 km<sup>2</sup> where coral reefs are no longer present when they previously were flourishing. They have been totally destroyed through the piling on of sand, the construction of concrete walls, and paving to create airstrips and build structures (Here & Now, 2015; Niier, 2015).

Coral cover had already been in decline in this region. Over the past few decades, coral cover has declined from 60 percent to 20 percent. The construction has taken valuable portions of what remains and buried it. The result is total destruction of the ecosystem as it existed prior to being covered in landfill. The total destruction of a large swath of reef structures through demolition and burying in landfill is considered a “catastrophic disturbance” of the reef which has negative consequences on the potential for recovery (Done, 2010).

3. Lasting Impacts of Damage to Adjacent Reefs

According to one estimate, China’s activities of dredging and building artificial islands has resulted in an area of severely damaged coral covering approximately 60 km<sup>2</sup>.

Within this area, it is difficult to find coral that has not been disturbed and damaged. Much of the damage is permanent (Here & Now, 2015; Niier, 2015).

#### 4. Uncertain Prospect for Recovery of Coral Reef

Coral reef recovery is highly variable. Scientists are still learning about what is considered normal recovery and how to measure the resiliency of reef building coral (Done, et. al., 2010). Recovery varies based on habitat, depth of the ocean in which the reefs are found, climate cycles, water quality, and numerous other factors. The recovery ability of a reef is likely to be slowed dramatically by factors such as changes in land use or pollution (van Woosik, 2013). The resiliency of a reef is dependent upon its ability to maintain a positive growth capacity (van Woosik, 2013). As explained above, the reefs ability to maintain a positive growth capacity has been severely inhibited due to permanent loss of large reef areas that do not permit any form of recovery, disruption of larval and trophic connectivity, decline of primary productivity and continued stress from the human activity and impact emanating from the artificial islands.

Recovery can be delayed by additional disturbances, including storms, additional construction, and pollution (Osborne, 2011). The destruction of coral reef occurs in an area that has an annual monsoon season and is prone to cyclones (Chang, 1995). The South China Sea is an area where tropical cyclones are known to originate and is one of the most frequent occurrences of tropical cyclones in the Northwest Pacific ocean (Wang, G. et. al. 2007). Cyclones and storms of similar strength have potential to disturb and interrupt recovery and lengthen the period of time before coral can reach pre-disturbance state, if the coral is able to recover at all (Osborne, 2011). Storms can strip the entire substrate of a reef, which has a more severe impact on the ecological life and diversity of the reef (Osborne, 2011).

## **VII. Conclusion**

China's actions have caused grave harm to the marine environment. Large sections of coral reef have been completely destroyed and the area of severely damaged reef extends for an estimated 60 square kilometers. The harm to the marine environment occurs both locally to the individual reefs directly subject to land reclamation, and systematically, due to the reefs' importance to the health of the overall ecosystem of the South China Sea. Artificial island-building represents a substantial change to the reef topography that has taken millions of years to form.

The Spratlys have up until 2013 been relatively free from human disturbance. Beginning in 1988, localized reclamation to support small structures took place on a number of reefs; these had a small environmental footprint compared to the size of the reefs where they were established. However, beginning in 2013, land reclamation increased in scale and extent with a number of reefs under various stages of development. Reclamation has involved dredging of adjacent areas and piling the materials onto the shallow reefs to create land. The speed of reclamation is rapid and has transformed the original reefs into islands large enough to accommodate runways.

The impact on the reef and associated habitats is acute because the land reclamation immediately buries reefs and associated habitats. Remnant parts of the reef that are not buried are degraded from the effects of sediment smothering, nutrient release, change in current

speed and direction, and reduction of habitat area. Drastic environmental change will degrade and compromise the ecological integrity of the habitat system and severely depress the value of ecosystem services that a healthy habitat provides.

The direct loss of reefs to reclamation and degradation of neighboring reefs in the Spratlys will result in habitat fragmentation of the ecosystem that further reduces the connectivity between individual reefs. Further degradation is inevitable from the increased human presence and activities on the reclaimed islands.

The prospect for recovery is uncertain. Coral cover in the region was already in decline and the world's coral reefs are currently threatened by a massive global bleaching event. Reef recovery is dependent upon proper management and is variable in the best of circumstances. This potentially irreversible damage to the Spratly reef system will have serious repercussions on the overall South China Sea ecosystem.

**Signature Page of Professor Kent E. Carpenter**

Dated: 14 November 2015

A handwritten signature in cursive script, reading "Kent E. Carpenter", written in black ink above a horizontal line.

Prof. Kent E. Carpenter, Ph.D.

14 November 2015

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Date

**Signature Page of Professor Loke Ming Chou, Ph. D**

Dated: 14 November 2015

A handwritten signature in black ink, appearing to be 'LMC', written in a cursive style.

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Prof. Loke Ming Chou, Ph.D.

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### **Annex 700**

Robert D. Hodgson, "Islands: Normal and Special Circumstances", in *Law of the Sea: The Emerging Regime of the Oceans* (J. K. Gamble, Jr. & G. Pontecorvo eds., 1973)



# **Law of the Sea: The Emerging Regime of the Oceans**

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## Chapter Eight

### Islands: Normal and Special Circumstances

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#### INTRODUCTION

Since the Geneva conventions on the sea and the shelf were signed in 1958, world states have directed much of their attention to the uses of the sea and the seabed. In the past five years, political leaders, diplomats, and lawyers have debated widely on the establishment of a limit between national and international jurisdictions for the peaceful exploitation of ocean resources. While this grand design of maritime jurisdiction continues to be discussed freely, boundary experts grapple with the language of the Geneva conventions while groping for solutions for the limits between national sovereignties or jurisdictions.

The conventions left many unanswered questions. While a precise seaward limit of national jurisdiction on the seabed remains one of the more important of these, the rational development of potentially the most fruitful area—the shelf—has been limited by questions concerning the sovereign and jurisdictional limits between adjacent and near opposite states. Germany, the Netherlands, and Denmark had to refer their insoluble differences to the International Court of Justice for adjudication. The Court's judgment, while troublesome in that it raised almost as many questions as it answered, served to settle the immediate dispute. The solution, however, was not detailed by the Court. Rather it

<sup>1</sup> This paper does not represent the official position of the United States government.

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laid down general ground rules and left the states to delimit the precise boundaries through good sense and cooperation.

Progress toward the solution of maritime boundary issues requires the rationalization of many vexing technical questions. Basically, these topics involve the vagaries of geographic, geologic, and hydrographic realities, which often appear to favor one state over another. The German-Danish-Dutch problem rested on the shape of the German coastline. While both the Danish and Dutch shores faced the North Sea convexly, the German shore fell away concavely. As a consequence, reliance on the equidistant principle developed from these differing baselines would have been most disadvantageous to Germany. Feeling that an inequity existed, the Federal Republic refused to negotiate, and shelf resource development languished for the three states.

Other technical questions involve the value of ocean "deeps" as natural limits. Does a particular area 300 meters deep represent a local aberration in the shelf which should be ignored, or does it mark the natural limit to the prolongation of a particular state's continental shelf? The resolution of the issue will require time and delay development. However, the single most troublesome natural feature to cloud the maritime limits field has proven to be islands— islands as basepoints, islands and maritime boundaries, islands as atoll, islands as archipelagos, islands as islands. The issues are pervasive and troublesome.

Unfortunately, conventions and other diplomatic accords negotiated between opposing points of view tend to reflect the least common denominator of compromise. Specific language is diluted to avoid dispute; technical points are not discussed. The Geneva conventions do not deviate from the norm. The International Law Commission and others perceived even before the final agreement on the conventions that islands would raise thorny questions. In the bodies of the agreements, islands have received general references as normal circumstances of geographic reality. In the lack of specific references, islands have been viewed as special circumstances to be treated uniquely as each situation dictates. From these two views come the problems of the present. Are islands normal or special circumstances? Should they be examined everywhere the same or each as a unique occurrence?

Just as no two individuals are identical, each geographic occurrence is unique. Nevertheless, elements of commonality prevail through all phenomena. To achieve a peaceful and rational use of the sea and the seabed, islands as maritime realities must be examined objectively to determine how they should be regarded or, if necessary, disregarded. Sovereign interests of the near-shore should be examined first, not necessarily because their solutions will be easier, but because they must be established as the bases for the more distant lines and limits. Without a solid foundation, the peaceful uses of the sea cannot prevail. Disputes may embitter nations and peoples and lead to conflict at worst or to delay in needed economic development at best.

**GEOGRAPHICAL FACTORS**

Conventionally, men view the world as comprising a limited number of continental land masses, variously numbered and grouped. Little argument may be found with the concept of North and South America and Afro-Eurasia as continents. Usually, Australia and Antarctica are included in the general continental category, but certain purists define them as subcontinental in nature. There is no doubt, due to their immense size and extensive configuration, that they may be conceived as "mainlands" of the earth. Mainland areas, grouped in the conventional concept of seven continents, are as shown in Table 8-1.

Smaller in size than continents but situated above mean high water at all times are more than one half million pieces of distinctly subcontinental land territory defined generically as islands. With a combined area exceeding 3,823,000 square miles, they range in size from mere dots or pinnacles, virtually without measurable surface, to extensive masses, such as Greenland, possessing an area of more than 840,000 square miles, greater in size than all but eleven countries of the world. In fact, 61 islands have areas in excess of 4,000 square miles (approximately the area of the independent states of Jamaica, Cyprus, and Lebanon); and at least 123 are larger than 1,000 square miles (approximately the area of Western Samoa and Luxembourg). Table 8-2 follows.

Islands are situated in varied and dissimilar patterns throughout the world. In reality, no two insular arrangements may be considered identical. Islands, nevertheless, are associated with all continents as well as with the open oceans. Insular areas, by the closest continental associations, are as shown in Table 8-3. Approximately 7 percent of the land area of the earth is encompassed by oceanic islands. (The figure would be greater if one were to consider islands in lakes and rivers, but these are essentially beyond the scope of this paper.) Virtually every coastal country possesses islands to a greater or lesser degree, and many countries are totally insular in geography.

**Table 8-1. Mainland Areas**

Africa	11,732,532 sq. mi. <sup>a</sup>
Antarctica	5,165,000 sq. mi. (ice covered)
Asia	18,506,328 sq. mi.
Europe	2,718,087 sq. mi.
North America	9,362,021 sq. mi.
South America	6,879,450 sq. mi.
Australia	3,302,400 sq. mi.
Total	57,665,818 sq. mi.

<sup>a</sup>The areas are in square statute miles: 1 sq. statute miles: 1 sq. statute mile = .755 sq. nautical mile.

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Table 8-2. Islands

<i>Area</i>	<i>Size (sq. mi.)</i>
Greenland, Arctic Region	840,000
New Guinea, Oceania	316,856
Borneo, Indonesia	286,967
Madagascar, Indian Ocean	227,800
Baffin, Canadian Arctic	183,810
Sumatra, Indonesia	182,860
Honshu, Japan	88,930
Great Britain, North Atlantic Ocean	88,756
Ellesmere, Canadian Arctic	82,119
Victoria, Canadian Arctic	81,930
Celebes, Indonesia	72,986
South Island, New Zealand	58,093
Java, Indonesia	50,745
North Island, New Zealand	44,281
Cuba, West Indies	44,218
Newfoundland, North Atlantic Ocean	43,359
Luzon, Philippines	40,814
Iceland, North Atlantic Ocean	39,800
Mindanao, Philippines	36,906
Ireland, North Atlantic Ocean	32,596
Novaya Zemlya, Soviet Arctic	31,390
Hokkaido, Japan	29,950
Hispaniola, West Indies	29,530
Sakhalin, Soviet Union	29,344
Tasmania, Australia	26,383
Ceylon, Indian Ocean	25,332
Banks, Canadian Arctic	23,230
Devon, Canadian Arctic	20,861
Tierra del Fuego, South America	18,600
Axel Heiberg, Canadian Arctic	16,671
Kyūshū, Japan	16,215
Melville, Canadian Arctic	16,141
Southampton, Canadian Arctic	15,700
West Spitsbergen, Arctic Region	15,260
New Britain, Oceania	14,592
Formosa, China Sea	13,885
Hainan, South China Sea	13,127
Timor, Indonesia	13,094
Prince of Wales, Canadian Arctic	12,830
Vancouver, Canada	12,408
Sicily, Mediterranean Sea	9,926
Somerset, Canadian Arctic	9,370
Sardinia, Mediterranean Sea	9,301
Shikoku, Japan	7,245
Halmahera, Indonesia	6,870
Prince Patrick, Canadian Arctic	6,696
North East Land, Svalbard	6,350
Bathurst, Canadian Arctic	6,193
Ceram, Indonesia	6,046
Sumbawa, Indonesia	5,965
New Caledonia, Oceania	5,671
Flores, Indonesia	5,513
Samar, Philippines	5,124
King William, Canada	5,062

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Table 8-2. (cont.)

<i>Area</i>	<i>Size (sq. mi.)</i>
Bylot, Canadian Arctic	4,968
Negros, Philippines	4,903
Palawan, Philippines	4,500
Panay, Philippines	4,448
Sumba, Indonesia	4,306
Ellef Ringnes, Canadian Arctic	4,266
Jamaica, West Indies	4,232
Hawaii, Oceania	4,030
Cape Breton, Canada	3,970
Bougainville, Solomons	3,880
Mindoro, Philippines	3,794
Prince Charles, Canada	3,676
Cyprus, Mediterranean Sea	3,572
Komsomolets, Soviet Arctic	3,570
Kodiak, Gulf of Alaska	3,569
Puerto Rico, West Indies	3,435
Corsica, Mediterranean Sea	3,352
Disko, Greenland	3,312
Crete, Mediterranean Sea	3,217
New Ireland, Oceania	3,205
Leyte, Philippines	3,090
Anticosti, Canada	3,066
Wrangel, Soviet Arctic	2,819
Sjaelland, Denmark	2,709
Cornwallis, Canadian Arctic	2,592
Iturup, Kurils	2,587
East Falkland, South Atlantic	2,580
Guadalcanal, Solomons	2,500
Graham, Canada	2,485
Isabella, Galapagos	2,249
Bali, Indonesia	2,243
Prince of Wales, Alaska	2,231
Prince Edward, Canada	2,184
Vanua Levu, Fiji	2,137
Chichagof, Alaska	2,104
West Falkland, South Atlantic	2,038
MacKenzie King, Canadian Arctic	1,949
Edge, Svalbard	1,942
Billiton, Indonesia	1,866
Trinidad, West Indies	1,869
Lombok, Indonesia	1,826
Unimak, Alaska	1,800
Santa Isabel, Solomons	1,800
Amund Ringnes, Canadian Arctic	1,764
Madura, Indonesia	1,762
Buton, Indonesia	1,759
Nunivak, Alaska	1,750 est.
Cebu, Philippines	1,702
Admiralty, Alaska	1,664
Long Island, United States	1,620
San Cristobal, Solomons	1,600
Andros, Bahamas	1,600
Malaita, Solomons	1,572
Kunashir, Kurils	1,548
Coats, Canadian Arctic	1,544

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<i>Area</i>	<i>Size (sq. mi.)</i>
Bohol, Philippines	1,491
Espiritu Santo, Solomons	1,485
Euboea, Aegean	1,457
South Georgia, South Atlantic	1,450
Majorca, Balearics	1,405
Wetar, Indonesia	1,400
Socotra, Africa	1,400
Kolguev, Soviet Arctic	1,350
Masbate, Philippines	1,262
Wellington, Chile	1,200
Pines, Cuba	1,182
Gotland, Sweden	1,167
Fyn, Denmark	1,149
Revillagigedo, Alaska	1,120
Moresby, Canada	1,060
Saaremaa, Gulf of Finland	1,046
Zanzibar, East Africa	1,020
Choiseul, Solomons	1,000
Reunion, Indian Ocean	970

**Table 8-3. Insular Areas**

Africa	241,782 sq. mi.
Antarctica	7,669 sq. mi.
Asia	1,243,732 sq. mi.
Europe	350,657 sq. mi.
North America	1,569,759 sq. mi.
South America	53,505 sq. mi.
Australia/Oceania	356,206 sq. mi.
Total	3,823,310 sq. mi.

Islands may be situated in all manners and patterns. They may perch immediately adjacent to the continental masses or be dispersed in midocean. They may be found in singular isolation or grouped by dozens, hundreds, or even thousands. They may be arranged in quasigeometric patterns—arc, quadrangles, triangles, polyhedrons, etc.—or randomly strewn across the water surface. Although each island group remains virtually unique, certain generalizations may be made for the sake of simplification and classification. Along the eastern shores of Asia and North America arcuate island chains rim the continents. Although the chains may commence or terminate in near shore areas, they often extend for hundreds of miles seaward from the continental mainlands. In the central and southern Pacific Ocean, islands are randomly but quite regularly scattered in a belt extending from north of the Equator in the northwest to about 30° south latitude in the southeast. The belt does not reach the South American continent.

The Indian Ocean possesses a similar insular dispersion, although in linear rather than arcuate patterns, south of India and adjacent to Burma and Thailand. The Arctic Ocean is virtually ringed with islands, including many of the largest in the world. Little rational arrangement may be found in the remaining areas of the world.

The dispersed and isolated islands, due to their detachment from the evolutionary biologic processes which took place on the continents, tend to have primitive and delicate biotic patterns; their flora and fauna lack the richness and diversity found on the continents. The ecological balance, as a consequence, tends to be finely adapted to climate and soil and readily subject to being damaged or placed into a status of imbalance. In contrast, islands close to the continental shores do not exhibit the same brittleness or sparseness of the environmental balance. But islands of the polar regions provide an exception: there, harsh physical factors and conditions prevail to induce precariousness of the biotic balance.

#### **POLITICAL STATUS OF ISLANDS**

Just as islands range in geographic and biologic diversity, so do they also encompass the full range of the political spectrum, extending from complete independence to virtually total political dependence. A review of the varied political status of islands is necessary, for certain political polemics on dependent territories, and the degrees of independence or autonomy, have tended to cloud a rational analysis of islands within the law of the sea context. It has been advanced, for example, that certain islands should be considered of lesser importance as base points since they are "colonial" in administration. Abstract and subjective criteria of this nature need not—and should not—be applied to the analysis of islands and their effects. The sword of such an analysis may cut in different ways. It may be argued with equal logic, and perhaps a greater sense of equity, that "colonial" insular territories should have a greater influence to compensate for their low political status.

The colonial argument is obviously based on the premise that most dependent islands are situated offshore from independent, "developing" nations. These islands could be detrimental to the hopes of these nations. The French Comoro Islands, for example, could mask Tanzania from certain seabed areas under an extensive distance boundary criterion. An opposite situation prevails just as commonly. The "colonial" but "developing" Bahama Islands flank the United States, a developed, independent state. Should the Bahama Islands be restricted in their value as base points in any shelf negotiations with the United States?

Moreover, a question of degree of dependence might have to be entered into any formula for the solution of ultimate values. The Comoros are locally autonomous. Should they receive a greater value than islands whose political status inclines more toward a greater dependency on another state? If so, how

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may we measure the degrees of "independence" and of "dependence" enjoyed by each territory to insure a truly equitable allocation? Can an equitable scale of values really be determined when each political status is, in fact, both unique and dynamic? Political status does not remain constant; laws are continuously modified to increase local independence. If a maritime boundary were to be negotiated with a dependency in which the value of the dependency's base points was reduced, what does equity demand if the territory wins a greater degree of autonomy or achieves independence as a developing state? The constitutional instrument of the French Community, for example, provides for the independence of the Comoros should the local government request it.

Logic indicates that this type of approach to jurisdictional boundaries is fraught with difficulties and would make successful boundary negotiations virtually impossible to attain; litigation could be endless. The dynamics of political development further mitigate against such proposals. A developing state might claim that an inequity would exist only if the revenues from the seabed of a dependency passed entirely, or nearly so, to the administering developed state. This possibility appears unlikely; political justice, the dynamics of political developments, and local autonomy oppose such an arrangement.

#### Independent Insular States

More than 18 percent of the world's independent states are completely insular in their geography. These states are:

Bahrain	Madagascar
Barbados	Maldives
Republic of China	Malta
Cuba	Mauritius
Cyprus	Nauru
Dominican Republic	New Zealand
Fiji	Philippines
Haiti	Singapore
Indonesia	Sri Lanka (Ceylon)
Iceland	Tonga
Ireland	Trinidad and Tobago
Jamaica	United Kingdom
Japan	Western Samoa

(The Bahamas will enlarge this list on July 10, 1973.)

Moreover, many more—probably a great majority—of the world's islands constitute integral parts of independent states. Some, such as Hawaii (USA), Sicily (Italy), and Corsica (France), form primary administrative divisions of the "mother country," while others, such as the Azores (Portugal), Sjaelland (Denmark), and the Canary Islands (Spain), comprise multiple adminis-

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trative divisions of the continental states. Most nearshore islands, however, form parts of the primary administrative divisions situated on the adjacent independent mainland, e.g., Long Island (New York, USA), Novaya Zemlya (RSFSR, USSR), Ko Kut (Koh Kong, Cambodia).

**Special Relations**

Because of geographic separation, special regimes of administration have evolved in recent years to incorporate overseas entities into the standard administrative pattern of the metropole while granting certain exceptions to recognize the unique local character of the territory. France, for example, has created "overseas departments" and "overseas territories." The former include the insular areas of Guadeloupe, Martinique, and Reunion. These overseas departments, in effect, are administered in a manner nearly identical to, and on an equal footing with, the metropolitan departments of France. The overseas territories, which include the insular possessions of St. Pierre and Miquelon, French Polynesia, the Comoros, Wallis and Futuna, and New Caledonia have a unique status because of local conditions. They elect representatives to the French parliament, however, as do the departments. Inhabitants of both the departments and the territories are French citizens and enjoy local representative government.

A second type of special relationship has been developed by Denmark and the Netherlands. In each instance the overseas areas and the "motherland" constitute a "realm." The territories, as integral parts of the realm, are partners in the processes of government; laws of the motherland do not normally apply, however, to the overseas parts of the realm unless approved by local bodies or representatives. Thus a large measure of national autonomy exists, with elected local legislatures or bodies providing for enactments of a specific, local nature or competence. The Faeroes (virtually independent) and Greenland constitute insular parts of the Danish realm, while the six main islands of the Netherlands Antilles form part of the Dutch realm.

**Autonomous States**

There is a significant group of insular entities which have individual and complete autonomy or local self-government. Normally this category includes detached islands, which have relatively dense, indigenous (and distinct) local populations. They have full jurisdiction over internal affairs although postage, coinage, foreign affairs, and defense normally remain within the domain of the motherland. Puerto Rico (USA), the Cook Islands (NZ), and St. Christopher-Nevis (UK) are examples of locally autonomous states.

**Trust Territories**

The United Nations trusteeship system, while considerably reduced in number of participants from the immediate postwar years, continues to apply to the completely insular areas of the Trust Territory of the Pacific Islands (USA

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administration) and to the Trust Territory of New Guinea. The latter is administered as part of the territory of Papua New Guinea by Australia.

**Centrally Administered or Dependent Territories**

A large number of small and/or isolated islands is administered centrally from metropole states. Wide variations exist in the form and degree of government or local self-government, and it is not possible, or useful, to generalize to any great degree on these islands and their institutional arrangements. However, almost every coastal state possesses islands that fit into the general category. Certain states administer the territories from the central government, e.g., Andaman and Nicobar Islands (India), the Northwest Territory (Canada), and Fernando de Noronha (Brazil). The links with the motherland are direct, and the indigenous population of the islands is often related to groups found within the continental parts of the state. In other instances, the territory is administered by a major administrative component of the national state. Such an insular territory still retains a dependency characteristic, but often the relationship to the national state may be closer than that in the previous category.

**Uninhabited and Disputed Islands**

Many of the detached or isolated islands of the world are either uninhabited or are populated by nonindigenous populations. Howland, Baker, and Jarvis Islands (USA), for example, cannot sustain a permanent population due to the lack of potable water, fertile soils, and/or other physical necessities. The French Southern and Antarctic Lands (France), Prince Edward and Marion Islands (South Africa), and Midway Islands (USA) are inhabited by scientific, usually meteorologic, administrative or service personnel. The people, normally, are rotated periodically from the motherland and are generally citizens of that country. Some personnel, however, may be drawn from indigenous populations of adjacent islands. The earnings of these "native" people often represent a significant increment to local earnings.

Finally, certain islands or island groups have obscure titles to ownership or are claimed by more than one nation. Most of the disputed islands are situated in the Pacific Ocean, but they also are found elsewhere in the world, e.g., the Red Sea, Persian Gulf, South and East China Seas, etc. Normally, the disputed islands do not contain indigenous populations, but exceptions—e.g., Abu Musa and Big Tumb—do exist.

Countless additional small islands, located near the seaward termini of international land boundaries, may also be involved in disputes. These prevail either where numerous islands exist offshore and the boundary delimitation is terminated at the shore, or they may occur where the international boundaries are situated in rivers whose mouths are subject to deposition and, as a result, to

seasonal or annual alterations in their beds. Unless boundary surveys are maintained continuously or have been carried seaward to envelop all islands, disputes automatically develop, e.g., Cambodia-Vietnam, Canada-USA, Argentina-Chile. With the exception of the shores of the unclaimed sector of the Antarctic, all islands of the world have been claimed by one or more coastal or insular states.

### **Summary**

As political entities, or parts of entities, islands assume the entire range of political levels of administration from independence to total dependence. Political status, it is strongly believed, should contribute to the value of islands as basepoints; it should not positively detract. To reduce value as basepoints because of political "dependence" would be inequitable and disruptive of good order, due to the transitory nature of political dependence. An exception would involve unoccupied (by an indigenous population) islands that are known to be in dispute. Disputes raised by the delimitation of boundaries based upon insular basepoints should be examined most carefully in the light of historical evidence of the dispute.

### **ISLANDS AND THE TERRITORIAL SEA**

In examining oceanic islands as ingredients in marine boundary determination, we see that they will or may affect (1) the seaward limit of a nation or territory, (2) territorial sea boundaries between adjacent or opposite states, and (3) the limits of jurisdiction on the seabed beyond sovereign territory. There does not appear to be an overriding reason for islands to be treated in precisely the same manner within the two contexts, i.e., sovereign territorial sea and jurisdictional continental shelf/seabed limits. Looking at the issue positively, there may be very good reasons for the differentiation. The territorial sea issue is security oriented, and security applies to all national territory. The shelf and seabed claims, in contrast, are resource oriented. Not all national territory has the same value for resource potential.

For example, a small island may be used as a basepoint for the measurement of the territorial sea but may have no value (beyond the previously stated limit) in the determination of a continental shelf boundary with an adjacent or an opposite state. The Iranian-Saudi Arabian treatment of the islands of Farsi and Arabi illustrates this situation.<sup>1</sup> Each islet has a 12-mile territorial sea except where the distance between them is less than 24 miles. Under these circumstances the "boundary" is the equidistant line; each island is a basepoint for the territorial sea of the two states. However, for the seabed limit of national jurisdiction, the two have no value beyond their own territorial seas. Many examples abound of similar treatment. Certain values, however, may remain constant within both general categories, as will be shown later.

**ISLANDS IN THE LAW OF THE SEA CONTEXT—  
GEOGRAPHICAL FACTORS**

In the Geneva Convention on the Territorial Sea and the Contiguous Zone, islands are defined, cited, or inferred in various articles. Article 10 defines, in paragraph 1, an island as follows: (1) An island is a naturally formed area of land, surrounded by water, which is above water at high tide.<sup>2</sup> The article suggests no size criterion, locational requirement in relation to mainland, or other particular geographical or special condition. The island does need to be *naturally formed*. The use of “formed” rather than “created” raises distinct or potential questions of interpretation. Obviously, the island must be land—dirt, rock, organic matter, or a combination thereof.

However, to maintain navigation channels, states and individuals dredge certain earth materials from the subsoil of rivers, harbors, and other coastal areas. Such material, or spoil, creates problems of disposal; and dredgers, motivated by cost factors, seek a local place in which to dump the spoil. This site often occupies nearby shallow waters. Currents, tides, and other natural forces act upon these man-made dumps of earth. When dumping ceases, most often they disappear, transported and redistributed over the bottom from which they were dredged by the restless environment of coastal waters. Occasionally these spoil dumps remain above sea level, but their external shapes and dimensions are altered markedly or “formed” by the actions of tides, waves, currents, and wind. A “naturally formed island” is born. However, should it be considered to be an island under the terms of the Convention?

The language of the Convention and the labors of the legal and technical experts who assisted in the preliminary drafts emphasize the chart representation of geographic features—the external, two-dimensional forms. Genesis of the landforms, difficult and expensive to establish or prove, was not a major factor in the proceedings. Charted forms dominate in the geographic-legal definitions of bays, river mouths, etc. As a consequence, man-created spoil banks may become, through the forces of nature, islands in the legal-political, as well as geographical, sense of the Convention. The U.S. Supreme Court acknowledges that spoil, when attached directly to the mainland, becomes a part of the mainland for purposes of the base line. The parallel to a “naturally formed” island would follow.

However, if dumping of spoil continues, the artificial nature of the spoil bank will be maintained. The shape of the “island” will continue to be artificially formed and the definition in the Convention will be negated. This fact would be reinforced if the coastal state continued to mark the “island” as “spoil” on official charts. The “island” would then remain “an artificially formed” node above sea level and should have no effect on the extension of the territorial sea. Geographically an island, the spoil bank does not legally exist as a base point. It should be noted that the effects of such islands on the extension

of the territorial sea are normally limited. To survive, they must be in relatively shallow water close to land.

Nevertheless, the definition in the Article presently excludes man-made objects, which do not constitute "land." Within the 1958 context, petroleum platforms, derricks, rigs, and "Texas tower" types of platforms did not, in the minds of the Convention drafters, warrant being designated as base points for the territorial sea. While many of these installations have been constructed, they have normally been considered transitory features related to the exploration or exploitation of the shelf rather than to sovereignty over the sea. Safety zones were deemed sufficient to protect the rigs; freedom of the seas remained unencumbered as a result.

Times and technology, however, have changed and will continue to change. The rate of change, in fact, accelerates. Consequently, a revised or new convention must face novel uses, not necessarily related to the seabed, which may or may not require sovereignty or sovereign rights: (1) offshore loading and unloading ports; (2) floating airports; (3) atomic power plants situated offshore to minimize environmental damage; (4) permanent storage structures for gas, petroleum and other products, etc.

Many other similar but nonconventional uses of the ocean surface will be made as man's occupation of the planet intensifies. They may prove that existing regulations, only slightly amended, can satisfy the political-legal requirements of these structures. On the other hand, new rules may be required. Since the bases for the ultimate decision will be predominantly political, rather than geographical, detailed analyses have not been attempted here. Geographic factors, will be strong however, and they should be considered in any ultimate solution. If these "islands" receive territorial sea, for example, should they be considered for the establishment of lateral or median line boundaries? Points made in the following sections may be applicable to man-made islands as well as to natural ones.

#### **ISLANDS AND THE TERRITORIAL SEA BASEPOINTS**

Paragraph 2 of Article 10 establishes the bases for islands when it states: (2) The territorial sea of an island is measured in accordance with the provisions of these articles.<sup>3</sup> Thus an island, regardless of size and other physical attributes, is entitled to a territorial sea. However, logic based on geography shows that not all islands will be allocated the full territorial sea claimed by the administering state. To receive a full territorial sea each island would have to be situated so as to be twice, or more than twice, the breadth of the territorial sea from all other islands, from the mainland baseline, from low tide elevations, and from closure lines of rivers, bays, historic bays, and straight baseline systems. Certainly the most seaward islands will extend the territorial sea, outward at least, for the

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claimed breadth. Elsewhere, the degree of allocation relates to the proximity of other basepoints.

If geographic factors can limit the extent of the territorial sea about islands, so may the factors of "special circumstances." They represent, in effect, nonphysical limitations of position and proximity. A territorial sea boundary between adjacent or opposite states will, under certain circumstances, affect this limitation. Objections to these circumscribings of effects are rarely voiced except when one state feels that they produce an inequitable result.

It is difficult to define precisely the conditions of inequity in boundary delimitations. Obviously, certain conditions predominate: (1) State A possesses many offshore islands, while State B has few or none; (2) State A's islands are situated immediately adjacent to and offshore of the mainland of State B; and (3) State A controls islands relatively distant from its shore which affect the territorial sea of State B. (Of note, the Anglo-Chinese treaty concerning Hong Kong appears to deny the island of Lan Tao a territorial sea on its western shore.<sup>4</sup> The international boundary between China and Hong Kong follows a meridian that intersects the shore of Lan Tao (island). The boundary then follows the shore until the meridian is rejoined. As a result, the island is British; the adjacent waters to the west are Chinese.)

Rationally, beyond the natural composition of islands, as specified in Article 10, geographic analyses of islands as boundary factors must consider: size, location, relationships to the mainland or to other islands, number, and configuration. These analyses must be related to the provisions of the Convention on the Territorial Sea and the Contiguous Zone and to those of the Convention on the Continental Shelf.

#### **ISLAND SIZE—THE REASONABLE BASIS FOR DIFFERENTIATION**

As noted, islands vary immensely in size. They constitute the smallest integral marine-geographic feature, often too small to be shown accurately on even the largest-scale maps and charts. Symbols, e.g., asterisks or dots, often must be used to denote the situation of an island, if not its physical dimensions; for it must be kept in mind that the smallest rock which lies above mean high water is geographically and legally an island. The primary source of difficulty in the delimitation of maritime boundaries has stemmed from islands. A state quickly claims that an island or islands of another state grant an inadmissible advantage to the possessor. These islands, it is claimed, produce an inequitable boundary. The basis of these claims is that, under particular circumstances, certain islands should not be granted a full value in the delimitation, to avoid inequity. A categorization of islands by size, as a result, becomes imperative if differing values are to be assigned under factors of special circumstances. For this purpose, islands may be classified as follows: (1) *rocks*, less than .001 square mile in area;

(2) *islets*, between .001 and 1 square mile; (3) *isles*, greater than 1 square mile but not more than 1,000 square miles; and (4) *islands*, larger than 1,000 square miles.

Islands, in a sense, are abstractions. They have little or no value merely because of their existence. Their utility to the state and in particular to the inhabitants of the state (for it is for the people that the state has been established) creates their value. Size relates to value, for surface area is necessary for habitation and for sustenance. Other factors may enter into the equation, but they tend to be difficult to measure without detailed and costly study.

*Rocks*, by these definitions, constitute high tide elevations which, due to their small size, would be unfit for human habitation. The value of rocks, as a result, would be negligible or nonexistent. They might conceivably be used as sites for navigational lights, but this form of occupation is both artificial and transitory, depending entirely on external support for its continuance.

*Islets*, in contrast, could under certain select circumstances support human habitation on a limited scale. Due to their restricted area, they could not be expected to sustain a sizable element of the state's population, even of the smallest of nation states.

*Isles*, with favorable physical conditions of soil, climate, landforms, etc., could maintain significant populations. Under certain conditions, they could and do form the major core area of small insular states, e.g., Western Samoa, Nauru, Tonga.

Finally, due to their large size, *islands* can and should be conceived of as mainlands which have all legal-geographic attributes of continents. Obviously, the United Kingdom believes Great Britain has all the endowments, for purposes of territorial sea and marine boundary determination, of continental territory. Iceland, Sjaelland, Cuba, Sumatra, Corsica and many other islands should possess the same legal-geographic nature as mainlands. The administering states have assumed this status in the creation of straight baseline systems.

#### LOCATION AND RELATIONSHIPS

Obviously, all four categories of islands have territorial seas according to Article 10 (2) of the Convention on the Territorial Sea and the Contiguous Zone. Depending on their geographic relationships to other islands and to adjacent and opposite states, they may have full or partial effects on the breadth of the territorial sea claimed by the parent state. Value as base points, however, becomes a critical issue only with the correlation of the islands to the territory of another state. Thus, the factors of special circumstances as they relate to islands increase with the islands' proximity to the adjacent or opposite state.

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The breadth of the territorial sea has not been standardized. However, to avoid awkward problems of discussion, it is assumed here that the territorial sea breadth of all states is 12 nautical miles. All mileage figures, other than square mileages, refer to nautical miles. The statement refers only to the international aspects of islands. They could, of course, assume great importance within a nation which has a federal system. As the proximity factor decreases from 24 miles, islands begin to assume an effect, both on the territorial sea and the development of maritime boundaries, which may cause real or apparent inequity to a second state. The degree of inequity relates directly to (1) the proximity of the islands to the adjacent or opposite state; (2) their physical relationships to the second state; and (3) to a degree, the coastal length of the second state in question.

Obviously, if the island(s) of State A extends up to or along the shores of State B, a basis for a claim of inequity may exist; at a distance of 24 miles a balance of forces occurs. As the distances between base lines decreases, the threat perception to the territorial sea extension increases. However, if State B possesses an identical or similar pattern of islands, a balance will develop as the two island groups relate to each other and to their respective states. The problem of inequity pertains directly to the excess insularity of one state and the proximity of placement of these islands to the baseline of another state. Thus, two islands situated 12 miles from the shores of their respective states and 24 miles from each other would not, in themselves, lead to inequity. Difficulties arise when a state appears to gain a large relative advantage due to the size, number, and/or location of its islands as they affect another state.

The inequity becomes particularly important to states with narrow coastlines; the island(s) of second states may deprive them of large percentages of the territorial seas they might otherwise enjoy. It is difficult, for example, to perceive a great threat of a reduction or expansion of the national territorial sea induced by, for example, the Mexican Coronado islands. Both Mexico and the United States are large coastal countries; the effects of these islands on the total territorial seas of the two states would be minimal. A small islet, such as North Coronado, would have a normal territorial sea of approximately 450 square miles ( $12 \times 12 \times 3.1416$ ). Assuming that half the sea could, as a maximum, lead to a reduction in the U.S. territorial sea, the area of concern involves less than 225 square miles. The U.S. territorial sea (at 12 miles) measures approximately 150,000 square nautical miles, and Mexico's about 55,000; the areal significance of the islands, as a result, can be seen to be minimal.

Except for narrow coastal countries, this fact is of paramount importance for all islands as they concern the territorial sea of another state. Islands as special circumstances can scarcely affect decisively territorial sea delimitations in an areal sense. (The individual island could have an immense strategic or economic importance, but the area, nevertheless, will be small.) Few detached islands of one sovereignty are situated immediately offshore of other states. Ex-

ceptions occur in the case of Macao, Hong Kong, Portuguese Timor, Kamaran, Perim, Corisco and the Elobays, the Dodecanese and possibly certain other Aegean islands, the Spanish islands off Morocco, the Channel Islands, Los Monjes, Aurla-Bonaire-Curaçao, St. Pierre and Miquelon, and the Australian islands south of Papua. A few other islands, which fall in the disputed category, have similar relationships.

### STRAIGHT BASELINES

Within the concept of islands as they affect baselines, the Convention further recognizes that islands may serve in a more complex manner as a basis for the measurement of the territorial sea. Following on the International Court of Justice's famous *Anglo-Norwegian Fisheries Case*, the Convention states in Article 4 that:<sup>5</sup>

1. In localities where the coastline is deeply indented and cut into, or if there is a fringe of islands along the coast in its immediate vicinity, the method of straight baselines joining appropriate points may be employed in drawing the baseline from which the breadth of the territorial sea is measured.
2. The drawing of such baselines must not depart to any appreciable extent from the general direction of the coast, 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.
3. Baselines shall not be drawn to and from low tide elevations, unless lighthouses or similar installations which are permanently above sea level have been built on them.
4. Where the method of straight baselines is applicable under the provisions of paragraph 1, account may be taken, in determining particular baselines, of economic interests peculiar to the region concerned, the reality and importance of which are clearly evidenced by a long usage.
5. The system of straight baselines may not be applied by a State in such a manner as to cut off from the high seas the territorial sea of another State.
6. The coastal State must clearly indicate straight baselines on charts, to which due publicity must be given.

Probably no other article of the Convention based on islands has been so used and perhaps misused by the states of the world. More than 60 coastal nations have employed straight baselines or have enabling legislation that permits their use. National practice varies from the most conservative Finnish model, in which no baseline segment exceeds twice the breadth of the territorial sea claim of four miles,<sup>6</sup> to extreme and indefensible violations of the intent of the Convention. Many states have segments that measure over 100 nautical miles

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in length. The Burmese example contains a line segment measuring over 222 miles in length.

While a restriction of segment length, in general, could be the single most important factor to prevent abuses of the system inherent in the article's vague language, length alone is insufficient. The Convention, of course, does not specify any maximum to line length. As a result, a long, straight baseline in itself need not be inadmissible. However, the longer the length of the line, the greater the possibility of including water areas in violation of the intent of the Article. A detailed analysis of the elements of straight baselines is contained in *Towards an Objective Analysis of Special Circumstances* (Law of the Sea Institute Occasional Paper No. 13); the salient factors, which have been demonstrated to determine the applicability of a system, are as follows:

### **General Direction of the Coast**

Single segments of a straight baseline system should not depart more than  $15^\circ$  from the general direction of the coastline. The latter should be determined, for a reasonably extensive coastal length, by an analysis of small-scale charts, i.e., c. 1:1,000,000. Should local departure from the norm be dictated by special conditions, large-scale charts of the locality should be consulted. However, the concept of the "outermost points of the outermost islands," as a determinant of the general direction of the coast, is patently ridiculous. By this criterion, any line connecting any two islands would follow the general direction of the coast. One need only to examine certain national systems to see the abuses to which such a criterion may lead.

### **Length of Line**

While not specified in the Convention, the maximum length of line concept becomes essential. Generally speaking, the longer the length, the greater the chance for manifest abuse. In the *Anglo-Norwegian Fisheries Case*,<sup>7</sup> the longest geographical line measured slightly more than 40 nautical miles in length. In the Lophavet sector, where historic-economic factors were determinants, the length of line was greater—45 miles. Except in these isolated instances, provisions should be made to limit the length in relation to its distance from enclosed islands on mainland. A 100-mile-long line segment, for example, which "skims" a fringe of islands at distances of a few miles, would be far more acceptable, within the provisions of the *Fisheries Case*, than a line of 60 miles in length that in certain areas might be tens of miles from the nearest intervening base point.

### **Fringing Islands**

Next to length of line, the concept of "fringing islands" has been the factor most subject to abuse. In certain national systems, a small island every 20 or 30 miles has been deemed "fringing." In others, reefs and shoals, both sub-

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merged or drying features, have been utilized in national law as parts of the systems. By contrast, in the Norwegian example, islands masked the mainland on the average for nearly two-thirds of the length of the coastline. In many areas the mainland was totally obscured from the sea by continuous and overlapping lines of islands. The Norwegian guide should be paramount. Furthermore, where fringing islands cease to exist, the system of straight baselines, in the absence of a deeply indented coastline, should return to the mainland and terminate. A second system obviously may be established when proper conditions again dominate.

**Subject to the Regime of Internal Waters**

Due to the complexity of potential land/water relationships (i.e., islands may be situated in numberless arrangements), an ideal measurement relates to the land/water ratio contained within the straight baseline system and the normal baseline of the coastline. The Norwegian ratio was determined to be 1/3.5. In combination with length of line, the ratio forms the best basis for evaluating a system of straight baselines to determine its conformity with the spirit of the Convention's Article 4 and the Norwegian example.

These determinants, of course, mark norms. States may establish more restricted systems which meet their national demands for security and for the protection of economic, historic, environmental, and social interests. The entire Article, in fact, is not self-executing; the coastal state need not employ straight baselines even where favorable geographic conditions occur.

**OPEN ELEMENTS ON ISLANDS**

The Convention on the Territorial Sea and the Contiguous Zone did not address two elemental types of islands: archipelagos and atolls. The latter were discussed within the Group of Experts and the former entered into many discussions prior to and during the Conference's sessions, but no final articles were approved concerning either. Nevertheless, archipelagos and atolls from significant insular geographic elements, and certain arrangements should be enacted to permit orderly development in marine jurisdictions.

**On the Problem of Archipelagos**

A geographic analysis of archipelagos should be based on three premises: (1) archipelagos exist as important (or significant) and cohesive geographic, historical, or political entities; (2) archipelagos may warrant a special regime within the law of the seas and/or seabeds context; and (3) the community of states must determine acceptable limits within which an archipelago principle may be applied. To accomplish this third premise or objective, the definition of the archipelagic feature and the rules to be applied therein should be relatively precisely delimited to protect universal requirements for freedom of navigation.

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At the same time the approach must be sufficiently pragmatic to meet the legitimate demands of the claimant states.

To understand the basic problem of archipelagos, it is helpful to recall that the "principle" has been extended to these island types in three different manners.

1. The first archipelago system has been applied to coastal islands, which conventionally have been integrated with the mainland territory of the same state. The Norwegian straight baselines system is the classic example of this type; the language of the International Court of Justice's *Anglo-Norwegian Fisheries Case* has, to a large measure, been incorporated into the Geneva Convention on the Territorial Sea and the Contiguous Zone. The provisions, although very general and subject to abuse, have generally provided a basic system to integrate coastal archipelagos into the maritime regimes of the continental territory of states.

2. A second method of dealing with the problem has been adopted by states which are entirely insular in geography. This system accepts in principle that one (or several) large islands constitute mainland in a manner similar to that permitted by the Convention on the Territorial Sea and the Contiguous Zone. Smaller, fringing islands are "tied" to the mainland by a system of straight baselines. The United Kingdom, France (Corsica), Iceland, Denmark (Sjaelland), Greenland, Ireland, Cuba, Dominican Republic, Canada (Newfoundland), Haiti, and many other states have utilized this concept without undue protest from the international community. (The Icelandic system, of course, drew many protests, including one from the United States; however, these protests were not publicly based on the use of the archipelago principle but were tied to the extent of the lines and their effects on the local cod fishing of distant water fleets.)

3. The third type of archipelago principle involves the consolidation of oceanic archipelagos into a single unit by a system of straight baselines. Normally, this insular type varies from the second system in the scale of the archipelago—it invariably covers a larger area than the second category—and in that no single island dominates, in its dimensions, the total land area of the archipelago. Here the islands are nearly all of an equal size—e.g., Galapagos Islands and Svalbard—or several are equally large but dispersed.

Insular states, particularly in the early stages of their political development, encounter difficulties in establishing administrative control over outer islands. Communications along the water routes tend to be poor and, as a result, central control is weakened. Where large islands with substantial populations and resources exist, they develop as important regional centers of power in conflict with the capital. Regionalism of this type is typical of developing states with

poor infrastructure, but the problems become more critical in insular states because of the difficulties of communication (both physical and electronic).

Local foci of power conflict with the central state's desire to unite the nation, weakening the concept of a single nation. Indonesia and the Philippines are the principal example of this latter type. In the former, Borneo, Sumatra, the Celebes, Java, and western New Guinea (Irian Barat) have offered potentially divisive "mainlands." In the Philippines, the islands of Mindanao, Palawan, and Luzon all form large, regional centers. No one island geographically dominates the archipelagos. Furthermore, the great dispersion of these islands restricts the use of the mainland option.

The oceanic archipelago states, which have adopted the third form of straight baseline system, cite the practices of the first two types of states as precedents for their activities. Implicit in this approach is the view that a totally insular state, which may normally face greater political problems of divisive geographic forces than states in the first two categories, should not be denied the advantages which accrue, through conventional international law, to their more favored continental neighbors.

Geographically speaking, it is hard to deny that comparative inequities may exist. However, as a consequence of the strategic positions of the Philippines, and in particular Indonesia, the strict employment of the archipelago principle has severe effects on the interests of the maritime states. If allowed to proliferate to less justifiable conditions, much of the world's oceans should be encompassed by archipelago straight baseline systems.

**What is an archipelago?** The standard dictionary definition of the generic term "archipelago" provides little aid to the delineation of the problem. Originally, archipelago referred to a *sea* studded with many islands. In particular, the designation applied to the Aegean Sea. By transposition, however, the generic term has universally come to designate the studding *islands* within the sea. An analysis of the Aegean reveals that the islands are scattered randomly but widely throughout the Sea. In fact no point in the Aegean is situated more than 35 nautical miles from an island. The islands in general are large in the sense that their average size would encompass several hundred square miles. The total land area of the islands probably exceeds 6,500 square miles.

Generalizing from these characteristics, an archipelago should rationally contain the following characteristics:

1. There must be a substantial number of relatively large islands scattered throughout a sea in an areal and not a linear pattern.
2. The islands should be situated so as to relate geographically (adjacency) to each other and to others in the group.
3. They should be perceived as a unitary whole because of political administration.

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By these definitions, archipelagos would be restricted to a limited number of major island groups that are relatively concentrated and interrelated. Moreover, by definition, the islands should constitute a state (independent or dependent) in themselves—they should be excluded from the mainland, where normal straight baseline provisions would apply.

The above definitions are general and would be subject to many interpretations and to certain abuse. To come to grips with this problem, archipelagos could be treated as “special circumstances” of straight baseline systems. Due to the special circumstance of total insularity, the parameters developed in the *Anglo-Norwegian Fisheries Case* should be modified to reflect objective criteria which would suit political and geographical realities. The most useful objective criterion adopted in international law to measure a geographic condition is the semicircular one for a bay. While not perfect, the rule combines simplicity of application with apparent logic and ease of comprehension on the part of the user. The latter is most vital.

The most important characteristics of an archipelago would be:

1. Areal dispersion of many islands over two or more axes (longitudinal and lateral)
2. Adjacency of islands among themselves with special reference to the length of the line about the perimeter
3. A land/water or territorial sea/insular sea ratio contained within the ultimate archipelagic baselines system

**Why a special circumstance?** The principal oceanic archipelago claimants have been Indonesia, the Philippines, and Fiji. These three have met to formulate a nearly common position concerning the “principle,” but they have now embarked on a concerted campaign to convince the less developed states, in particular, of the soundness of the principle.

As McLoughlin of Fiji stated: “It is important to such [archipelago] countries, and of vital concern to Fiji, to control the development of their marine environments in order to ensure that such development is in their best interests and to prevent any form of depredation or pollution that may endanger that environment or deplete its resources.”<sup>8</sup>

Prof. Mochtar Kusumaatmadja (Indonesia) elaborated on the bases for the claims when he said

“... in an archipelago there exists a very close relationship between the *land* (island) and the surrounding sea (water). The existence and distribution of natural resources throughout an archipelago—both living and nonliving (or mineral)—are the result of or dependent upon the geophysical and ecological unity and interdependence of the island and the intervening waters. Secondly, where the people inhabiting the islands are technologically underdeveloped, free com-

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petition with technologically more advanced outsiders would be disastrous.”<sup>9</sup>

He further stated that the dangers to the environment “seems to further strengthen the case for considering an archipelago as one unit.” Finally, almost as an aside, he mentioned the problems of security faced by an underdeveloped and insular state in which the naval forces of a stronger power may “maneuver” uncurbed and immune. While the Philippines have objected strenuously to derogation from full internal waters status within the archipelagos, Prof. Kusumaatmadja has implied strongly that “innocent passage” should be guaranteed.

Thus it appears that the archipelago principle, at its roots, is resource or resource-protection oriented. If so, control over resources could be granted within the archipelago system to the state; and, if carefully negotiated, a form of transit (perhaps along specified corridors) through a limited number of “international transit straits” or corridors could be correlated with the otherwise resource-oriented archipelagic system. Such a solution could appear to accommodate both the world’s and the archipelagic states’ basic objectives.

**Proposed archipelagic system.** Hodgson and Alexander have proposed a system of archipelago baselines.<sup>10</sup> At the time of writing, their principles had not been applied to Indonesia or to the Philippines, although they could have been. Certain modifications in their suggested approach would be required, however, if these principles were to be applied to these two vital stages.

1. *Adjacency.* The proposal required that, as a maximum, 40 to 48 nautical mile closing lines be used as a measure of adjacency. These lines have since been applied to Indonesia, the Philippines, Fiji, the Galapagos, Tonga, and the Bahamas. The effects are minimal: in Indonesia, the islands of Sumatra, Borneo, Java, and the Celebes become a unit, if a narrow connection may be declared unitized. The eastern area remains detached and broken. Nevertheless, the system works effectively for the remainder of the states, although the Philippines straight baselines would not enclose the Sulu Sea.

Pragmatically, neither the Philippines nor Indonesia is likely to accept the results of these lines unless other economic resource zone limits would allocate the residual areas. Furthermore, these countries probably would want to hold that the waters within the baselines were internal waters, which would effectively close all Philippine and Indonesian straits except the Molucca-Ceram passage to Australia. The continuation of the route to East Asia would, nevertheless, be denied by the Philippine limits.

To find a realistic solution, the proposed absolute limit should be amended to permit the construction of a limited number of lines (this may be expressed as an absolute figure, i.e., ten lines of this length, or as a percentage of

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the total number of baseline segments) to tie together the major geographic segments of the archipelago, which may be defined as a percentage of the total area or as an absolute area. The change in the original position is justified on the basis of state practice in the drawing of straight baselines. The original concepts proposed by Hodgson and Alexander evolved from the Norwegian example. The longest geographic baseline was 40 nautical miles, although "historic waters" were enclosed by longer segments (approximately 45 n.m.).

Of the 30 states employing straight baseline systems that the Office of the Geographer has studied to date, nearly 50 percent have employed one or more lines in excess of the 40 nautical mile limit of the Norwegian example. These are shown in Table 8-4. It can be argued that selected limits in excess of the Norwegian example maximum have become standard state practice. The logic, as applied to archipelagos, is relatively simple; if the parts are to be joined, geography determines the length of line. Of course, "good" geography and "bad" geography coexist in any system of straight baselines. "Geography" can be as bad an excuse as "history" or any other ill-defined reason. To keep "good" geography from being overwhelmed, an additional test in the form of integration is proposed.

2. *Perception of geographic integration.* The essential measure of the relationship between land and water in an archipelago is not only a factor of distance, i.e., adjacency. Of equal importance is the proportion of land to water within the system, which may logically be expressed in two ways. In the cited paper, Hodgson and Alexander suggested that the territorial sea, measured from the normal base points, should relate to the total area of insular waters. These latter were defined as the jurisdictional waters beyond the normal territorial sea gained by the use of the construction lines. It was stated that insular waters

Table 8-4.

<i>State</i>	<i>N.M.</i>
Dominican Republic	45.0
Faeroes	60.8
Burma	222.3
Madagascar	123.0
Venezuela	98.9
United Kingdom	40.25
Mozambique	60.4
Portuguese Guinea	79.0
Thailand	59.15
Philippines	140.05
Iceland	74.0
Indonesia	124.0
Guinea	120.0
Mauritania	89.0
Ecuador	136.0

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“... may not exceed the aggregate of areas contained within circles twelve miles in radius calculated about each basepoint used.”<sup>1</sup> In the case of atolls, it was strongly recommended that the limit of the coral reef be used as base points rather than the normal “island” shoreline. The reefs and lagoons should also be measured as land in the land/water ratios mentioned below.

These ratios have not been fully developed for the island archipelagos under study. Before this proposal is discussed in depth, it would be wise to examine the effects of a proportion of territorial to insular waters on the larger archipelagos. The smaller island aggregations, such as Fiji and the Galapagos, however, would meet the insular/territorial water criterion because of their size and configuration.

A second possibility would be to establish a maximum permissible land/water ratio contained within the baselines. In the Norwegian example this ratio is 1:3.5; for archipelagos the limit should be eased to 1:5 due to the basic maritime character of archipelago. The examples have been measured from the specific baseline system to determine the following ratios:

Indonesia	1:1
Philippines	1:2.14
Galapagos	1:4.59
Fiji	1:4.88
Tonga	1:25
Bahamas	1:10+
Faeroes	1:3.5

Although 40 n.m. “construction” lines may be drawn, Tonga and the Bahamas could not qualify under this criterion as archipelagos, nor could French Polynesia, the Trust Territory of the Pacific Island, the Cook Islands, and other oceanic atoll groups. The exercise has not been applied to the Maldives, but they probably would not meet the land/water ratio criterion.

*3. Areal distribution.* If this characteristic needs to be quantified—and it may not—one need only say that the maximum transverse axis length must be at least 1/10 of the length of the longitudinal axis. The purpose of this requirement is to prohibit the drawing of archipelago limits about line islands. Such chains of islands—e.g., the Aleutians, Kurils, Lesser Antilles, and Marianas—extend across vast areas of the oceans and seas in narrow chains, often only one island wide. These islands should not be considered as archipelagos. Their problems do not relate to interisland waters; in fact, the only waters of this nature are situated between two islands in the string.

The twelve-mile territorial sea provides for the major problems associated with most of these islands. To permit the drawing of construction lines would add little to the economic well-being of the states, for little integration

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would be gained. The lines, however, would lead to security problems for the world maritime states; each connecting line cuts through a potential strait. In certain instances, limited problems of these arcuate or line islands may be solved by the "mainland" concept of straight baselines, i.e., by localized grouping.

4. *The status of waters.* As stated in Hodgson and Alexander's original proposal:<sup>1 2</sup>

*Rationale for the proposal.* The system suggested here is designed to afford archipelago areas an opportunity, under certain prescribed conditions, to assert [economic] competence over their interisland waters. The construction lines are in a sense artificial baselines. From them the seaward limits of insular waters are measured, and all areas of insular waters must be within 24 miles of these seaward limits, or the base points themselves. Thus, if adjacency in archipelagos can be taken as less than, or equal to, twice the breadth of the territorial sea (measured as twelve miles) then the principle of adjacency is not violated in this proposed scheme.

Waters within twelve miles of the base points would be subject only to the normal regime of territorial waters, and not to the additional restrictions of "insular" regimes, so far as freedom of transit and overflight are concerned. The system suggested here implies also that territorial waters may be delimited in the case of coral reefs, as suggested in the Addendum of the Second Report on the Regime of the Territorial Sea in preparation for the 1958 Geneva Conference. Many of the island groups of the world, such as the Maldives, Truk Islands, and the Palau group, have extensive coral formations which themselves form a part of the geographic whole. It would hardly make sense to exclude these features in the delimitation process.

The various restrictions noted here would apply only in the case of delimitations based on the principle of adjacency. If special circumstances exist, either on the ground of history or of economic need, some adjustments in delimitation restrictions may be necessary. There are many situations in which special competence of the coastal country over activities well away from its coast can, in theory at least, be justified. But under no conditions should the freedom of navigation and overflight for purposes of transit beyond the twelve-mile territorial limits be compromised. Like the regime for straight baselines, this archipelago system should require delineation on officially recognized large-scale charts to which due publicity should be given.

**Discarded Concepts.** Several alternatives for archipelago determination have not been pursued for the stated reasons.

1. *Minimum area of land.* Most underdeveloped countries are small and they resent the developed "giants." To deny that a small archipelago cannot

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have a system which a large archipelago may have would be offensive and unproductive.

2. *General direction of an archipelago.* To say that the baselines must follow the "general direction of an archipelago" (similar to the straight baseline concept) would require further quantification and complication of criteria or the acceptance of lines joining outermost points of the outermost islands as determining the "general direction." The concept is at best foggy ashore, but it is intolerable offshore because of the nature of the comparison. In the straight baseline proposal, the comparison is between the trending directions of offshore islands and a mainland.

In the case of a midoceanic archipelago, the comparison would be between the trend of the islands qua islands and the islands qua a group of islands. The distinction would be so slight that the effect of such an argument would be to permit lines to be drawn about the outermost points of all islands that politically may be conceived as part of an archipelagic state. In reality, certain islands do not constitute integral parts of the archipelagos based on adjacency, and they should not be joined to the remainder of the islands.

3. *Geological/geophysical basis.* Two objections to this thesis become immediately apparent: (1) If one goes deep enough in the ocean, one can find a geologic or geophysical continuum for any given area. This fact would apply to atolls, for example, wherever they might be in the same ocean. (2) If one does not go deep enough in the water, archipelagos such as Indonesia become divided. Geologically, Sumatra, Borneo, and Java are one entity; the eastern islands a second one. Consequently, the idea is difficult to support without a comprehensive determination of scientific facts, which could be difficult and expensive to prove or disprove. Geological and geophysical criteria alone are insufficient; furthermore, they are very complex to apply to tectonics, geomorphology, seismology, sedimentation, structure, geologic age, etc., and difficult to determine without extensive and costly research.

4. *Historical/economic factors.* Any state may point to historical or economic reasons for unity and/or control of communication lanes, etc. The same reasoning could be applied by the U.S. (or any divided country) to explain why it should control, for example, the area between the U.S. and Hawaii. Worse still, it is the ultimate reason for claiming all intervening areas in any insular state. The argument parallels the national wish to attain "defensible frontiers." These "defensible" positions are *always* outside the existing boundaries, even though equally useful lines may be within present state limits.

5. *Perceptual factors.* As with the previous concept, "perceptual" factors must be greeted with skepticism. Americans perceived the occupation of the west as their "manifest destiny," which led to the indefensible

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slaughter of native Indians and the needless destruction of animals. The nationalistic leaders of any emerging nation cannot be expected to avoid the pitfalls into which we ourselves fell. They are bound to perceive interisland water areas as vital to their national development, or at least to see the need to exclude all foreign activity from them.

### Summary

In order to maintain law of the sea objectives, the world community of nations must find a means to adapt the Convention to the problems engendered by the application of the archipelago principle. While it is not entirely clear that the proponents of the concept can obtain the adoption of the principle in a future convention, the prospect of a confrontation between the major maritime states and these developing insular states looms. The repercussions could be most damaging to peace with the third world states.

Any solution, however, must not compromise general maritime objectives—yet it must be pragmatic enough to satisfy the requirements of certain of the archipelago states. Moreover, it must establish limitations to prevent a proliferation of claims by less qualified island states. A solution may lie in the strict, objective definition of an archipelago based on the following principles:

1. *Areal dispersion* along two or more major axes which would relate to each other by a ratio of 1:10 or larger.
2. *Adjacency*, as determined by construction lines of 48 nautical miles or less, drawn along the perimeter of the archipelago, which would join islands together; where required, a limited number of construction lines, up to 80 nautical miles in length, could then be drawn to unite major insular components.
3. *Geographic integration*, as expressed by either a territorial sea/insular waters ratio or a land/water ratio within the baseline system. In the former case, a ratio of 1:1 could mark the limit while in the latter a 1:5 ratio could apply.

Transit of the insular waters could be free as on the high seas. Corridors should be designated for a limited number of international straits; at least two should be defined across the longitudinal axis and one along the lateral.

### The Choice of Baselines About Atolls

Atolls primarily comprise chains of tiny, low limestone islets (“motus”) that partially crown a circular or oval coral reef. The reef normally is completely submerged at high tide but heads dry at low water. Geomorphically, atolls present several external forms, dependent on the stage of development or on genesis. They may be characterized as true atolls, almost atolls, partly raised atolls, and raised atolls. Basically, the major difference in the external, two-dimensional character affects the nature and extent of the lagoon contained

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within the reef. In a true atoll, the reef is virtually continuous; islands are limited, and the lagoon is expansive and completely marine. In the raised atoll the lagoon has become a saucerlike depression completely above sea level. The two remaining categories form immediate steps.

The true atolls and raised atolls represent the major problem area in the development of an equitable and logical baseline for the measurement of the territorial sea. The reefs are almost entirely formed by coral skeletal structures that live in a restricted environment. The skeleton of the coral polyp develops by cells on its bottom and sides which excrete calcium to protect the otherwise defenseless marine organism. The coral builds upward upon the skeletons of its dead ancestors. While live coral may be found in water depths to 1,000 feet, most exist between 20 feet and 160 feet below sea level. The reef becomes a cemented mass of skeletal material, modified by dissolution and recrystallization through the actions of sea water. Wave action will break off huge chunks of reef, which eventually may be pulverized and reduced to sand. The top surface of the reef is covered with this debris in all sizes and forms.

Reef corals live only under restricted geographic conditions. They cannot survive except within the temperature range of 65°-96°F, with ideal water temperature being about 80°F. Consequently, atoll development is restricted to the tropical and warm subtropical waters of the Pacific, Indian, and Caribbean seas. Moreover, major coral concentrations are situated in the central and western portions of these bodies. The coral reef has a characteristic profile. The outer or seaward edge of the reef drops steeply to the sea floor. The inner or lagoon side shades gradually to a flat, shallow basin, the atoll lagoon. These bodies of water are clear, beautifully blue, and teeming with marine life. Coral fundamentally cannot survive in silty or polluted waters, hence the purity and richness of the lagoon flora and fauna.

In virtually every instance the rim of the coral reef is nearly continuous; perimeter coverage is generally greater than 75 percent and usually averages about 90 percent. Lagoon openings are situated normally on the lee side of the motus. Motus, in the true atoll, are limited in number and in linear extent. Rarely do they attain 50 percent of the total perimeter; normally they total much less. In certain atolls the motus may constitute less than 10 percent of the total perimeter.

An atoll forms a geographic and ecologic unity. The lagoon, which constitutes the center of life in the atoll, has the definition character of land-locked waters. The lagoon is generally calm, exceedingly clear, and of a characteristic color distinct from the general ocean. Wind-induced wave action is broken by the seaward extent of the reef. Other physical factors such as temperature, salinity, etc., show marked differences from the oceanic norm. However, the most important feature of the lagoon is the rich and varied biota; most atoll lagoons generally teem with fish and other marine life.

The economic well-being of the indigenous population depends to a

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very large measure on the harvest of the lagoon fishery. This fact relates to the absolute lack of land surface and the even greater restrictions for cultivation in the normal atoll; the sterility of the limestone soils and the lack of indigenous animal life on the motus are other factors to be considered. Coconuts constitute the primary agricultural products, although some root crops are also grown. Vital protein comes primarily from the lagoon. (On some near atolls and raised atolls, pigs and other domesticated animals are raised in limited numbers, but they are generally insufficient to meet the requirements of the population.)

The reef not only forms the lagoon that sustains the population but its existence is essential for the maintenance of the motus themselves. Without the reefs, the motus would soon be destroyed by wind and wave action. Thus the reef gives the motus both life and survival. The recent threat of reef-destroying crown-of-thorns starfish represents an unusual danger to the inhabitants of these atolls because the destruction of the coral eventually means the end to the islets through erosion.

For survival, the inhabitants require all three: reef, lagoon, and motus. As a result, it is impossible, geographically, to separate the three interrelated elements. While man may be destined to live his life on the motus, to maintain his existence he must harvest the lagoon formed and nurtured by the reef. This need, which is basically one of economic survival, must be reflected politically. To protect the resource upon which life depends, the inhabitants must be in a position to control the lagoon. To accomplish this fact, the territorial sea of an atoll should be measured from a baseline formed by the seaward side of the reef. From this concept, the following should develop:

1. The lagoon forms internal, landlocked waters of the state or the atoll as part of a state.
2. The territorial sea should be measured seaward from the outer limit of the reef, even where it is submerged at mean low water as shown on official charts.
3. The contiguous zone should be measured from the same baseline as the territorial sea.
4. If geographic conditions permit, a system of straight baselines may be drawn so as to use the reefs rather than the motus as turning points.
5. Where openings in the reef are greater than twice the claimed territorial sea, the openings may be closed at the natural entrance points of the reef, in a manner similar to bays on a mainland shore. This provision is vital to preserve the internal waters nature of certain lagoons.

**ISLANDS AND BAYS**

Article 7(3) of the Convention on the Territorial Sea and the Contiguous Zone concerns islands in the mouth of the bays insofar as the islands affect the length

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of bay-closing lines. However, islands may relate to the bay-closing lines in three distinct manners: (1) those situated within the mouth of a bay; (2) those which screen the mouth of a bay; and (3) those which form the headland of a bay.

In the first of these situations, the method of drawing the bay-closing lines is relatively simple. If the selected closing line intersects an island within the mouth of the bay, that island will be used to form a part of the closing line. Natural entrance points should be determined. Should these closing lines, or their continuations, intersect other islands, such islands too will form a part of the closure line. Obviously, islands not intersected by the line segments will not be used (see Figure 8-1).

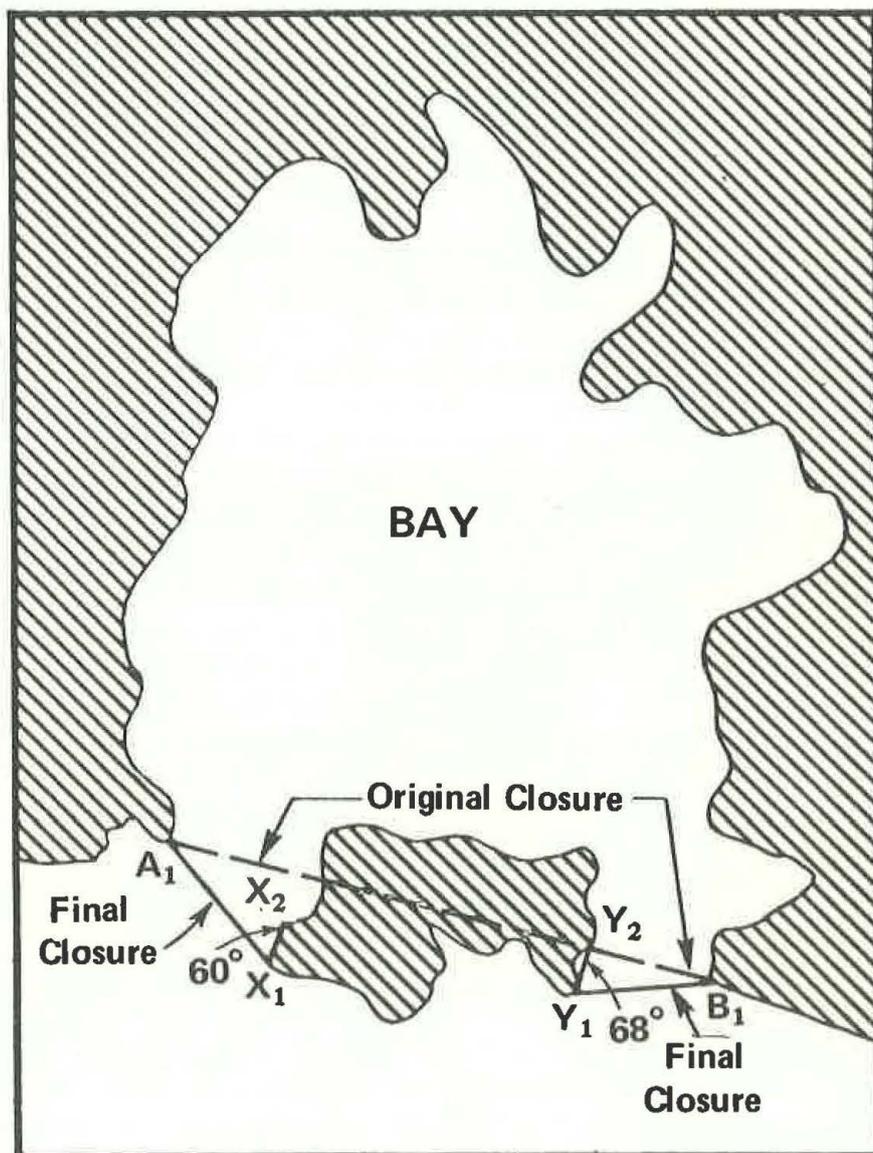


Figure 8-1. Bay Closure: Island in Mouth of Bay

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The purpose of a bay-closing line is to enclose a natural feature—the bay—where a line does not normally exist in nature. Under certain circumstances, however, a series of islands may exist which naturally “screen” the mouth of a bay. If the islands serve to block more than one-half of the opening of a bay, they may be judged to screen the mouth of the bay from the sea. Since the greater condition, i.e., more than one-half of the mouth, is represented by islands, they should be deemed to form the dominant geographic characteristic of the mouth and serve to enclose the water within the bay; these islands screen the bay from the sea. Under this condition, the islands may be considered to form the natural closure for the bay even if they are not situated directly in the mouth of the bay. Since the islands are the natural line which terminates the conditions of landlocked waters, the bay-closing line must be drawn by using the screening islands. The string of islands may, however, project landward or seaward of the line joining the natural entrance points of the bay (see Figure 8-2).

The screening islands may occasionally continue beyond one or both natural entrance points of the bay. In this instance, the bay-closing line would not be continued along the line of islands unless they form a part of a straight baseline system. The bay-closure line should terminate at the natural headland of the bay.

Finally, islands themselves may constitute headlands of a bay under certain conditions. These islands must closely relate to, and be associated with,

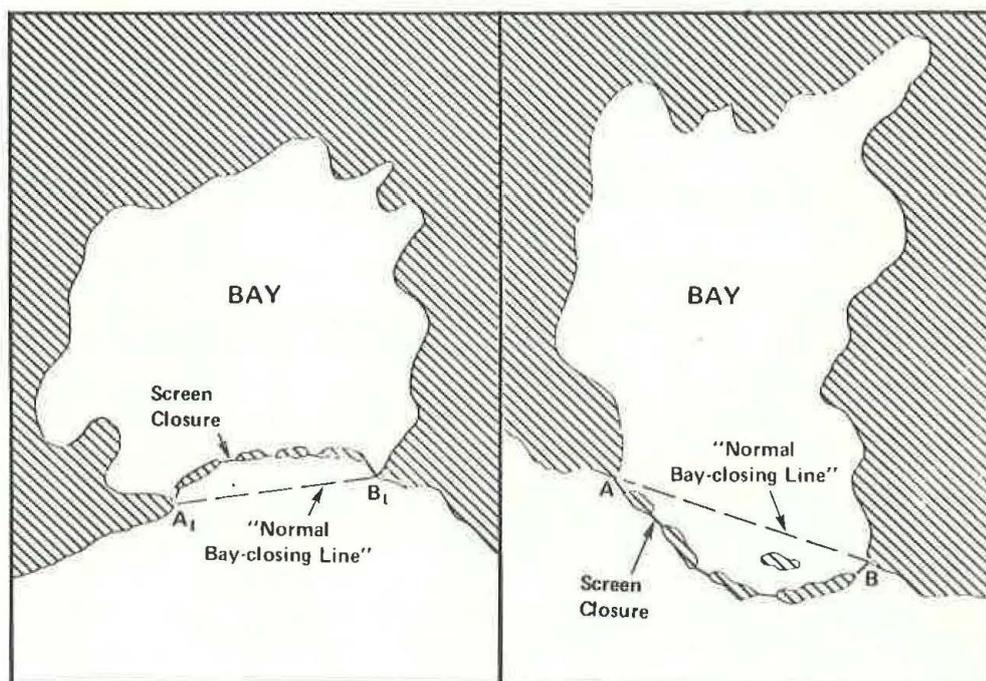


Figure 8-2. Bay Closure: Screening Islands

the adjacent mainland. To be used as headlands, however, they should also form a natural extension of the two-dimensional coastline formation as viewed on a nautical chart. Moreover, the area of the island should be greater than the area of the intervening water between it and the true mainland. A matter of scale is also involved, which relates directly to the nature of the feature. Under normal conditions, the islands used as headlands will be relatively small so as not to dwarf the true proportions of the original bay feature and, hence, change its entire character. The enclosed water area should ideally resemble a channel in configuration.

### ISLANDS AND TERRITORIAL SEA BOUNDARIES

Article 12 of the Convention on the Territorial Sea and the Contiguous Zone defines negatively the procedures for territorial waters delimitation.<sup>1 3</sup>

1. 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 baseline from which the breadth of the territorial sea is measured. The provisions of this paragraph shall 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 with this provision.
2. The line of delimitation between the territorial waters of two States lying opposite or adjacent to each other shall be marked on large-scale charts officially recognized by the coastal States.

In general practice, coastal states have seized on the provision of equidistance in the article (which is merely a maximum limit of unilateral action where agreement does not exist) to make it a law of territorial waters delimitation. While time has not been sufficient to enshrine the principle as a "conventional wisdom," belief in the principle has become widespread. The result, however, is to place islands in a position where they may cause inequities.

The best boundary between states is one that both states accept peacefully. This limit may be based on equidistance or on any other logical precept that appears to result in equity. The presence of a significant geographic feature, such as a navigation channel which could be of benefit to both states, may be of far greater consequence than an enshrined principle of equal area sharing.

Furthermore, where many islands exist randomly in the territorial sea boundary region, an equidistant line will by definition be tortuous, and may be so complex as to be meaningless. Alternatives to the principle can result in an

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equal distribution of the sea without the associated complexity of equidistance. In view of the limited amount of territory that results from the normal island and a twelve-mile territorial sea, these alternatives should be considered seriously in order to reduce, in effect, the problem of boundary delimitation involving offshore islands. Certain of these alternatives, which may have to be modified depending on the locations of the islands, include: (1) straight line azimuths, (2) parallels of latitude or meridians of longitude of the land boundary termini, (3) continuation of existing land frontier line, (4) continuation of river median lines or thalweg channels.<sup>14</sup>

Should equidistance be preferred, or be easier to accept as a basis for negotiation, a simplified line may still be delimited. In the Mexico-U.S. maritime boundary for the Pacific, a more easily administrable line was produced by an equal exchange of territorial sea.<sup>15</sup> A further refinement of this procedure would require the states to negotiate the general directions which they desired a lateral boundary to follow in its extension from the land to the sea limit. The line could then divide equally the least distance, measured perpendicularly to the selected general azimuth, between their adjacent islands.

This concept is illustrated in Figure 8-3. Islands 1, 3, and 5 belong to State A, while 2, 4, and 6 belong to State B. The distance between selected pairs is divided in half to determine the precise position of the boundary. The resulting line constitutes a modified form of equidistance but, being simpler, is easier to administer. However, if the equidistance principle is to be used for the continuation of the boundary on the shelf, the terminal point of the territorial sea should be selected close to or at equidistance to avoid unnecessary complications in prolonging the delimitation. The number of azimuths to be chosen will relate to the complexity of boundary delimitation desired.

Notwithstanding, certain adjacent or opposite states will find equidistant boundaries easier to negotiate due to the international acceptance of the principle. Islands will come to the fore and may lead to problems of inequity and the demand for an application of special circumstances. To meet some of these difficulties it is proposed, where inequities may arise, that,

1. Rocks, as defined, should have no effect on the equidistant line, but they should not, unless situated more than twelve miles from the resulting maritime boundary, become enclaves within the territorial sea of another state. They may be accorded a sea breadth sufficient to remain contiguous to the territorial sea of the parent state. The line of contact, however, must be sufficiently wide to permit easy and free access. (See Figure 8-4 for an example.)

2. Islets should be granted a partial effect in the construction of an equidistance boundary. The value should be one-half or more, in view of the

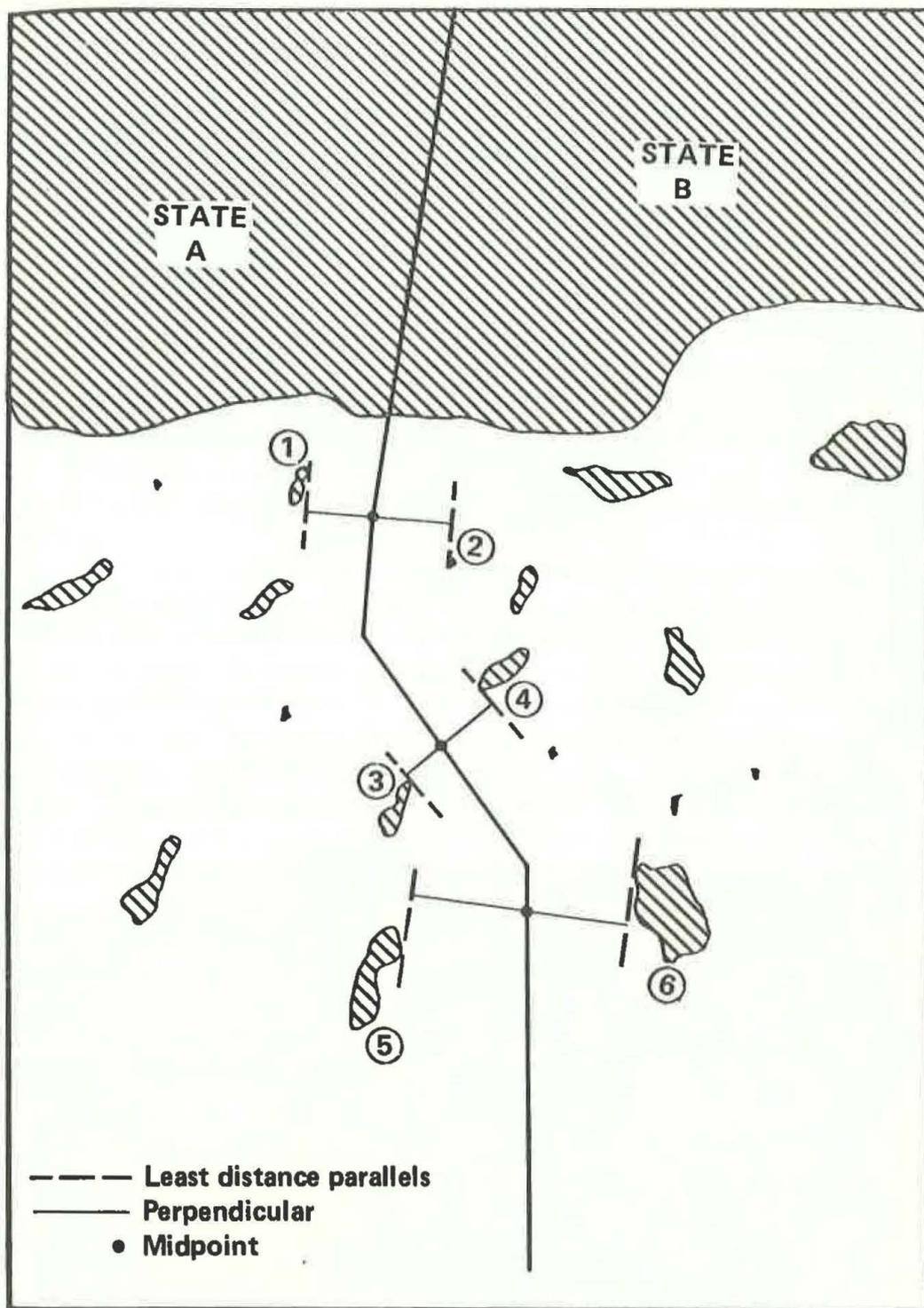


Figure 8-3. "Least Distance" Equidistance

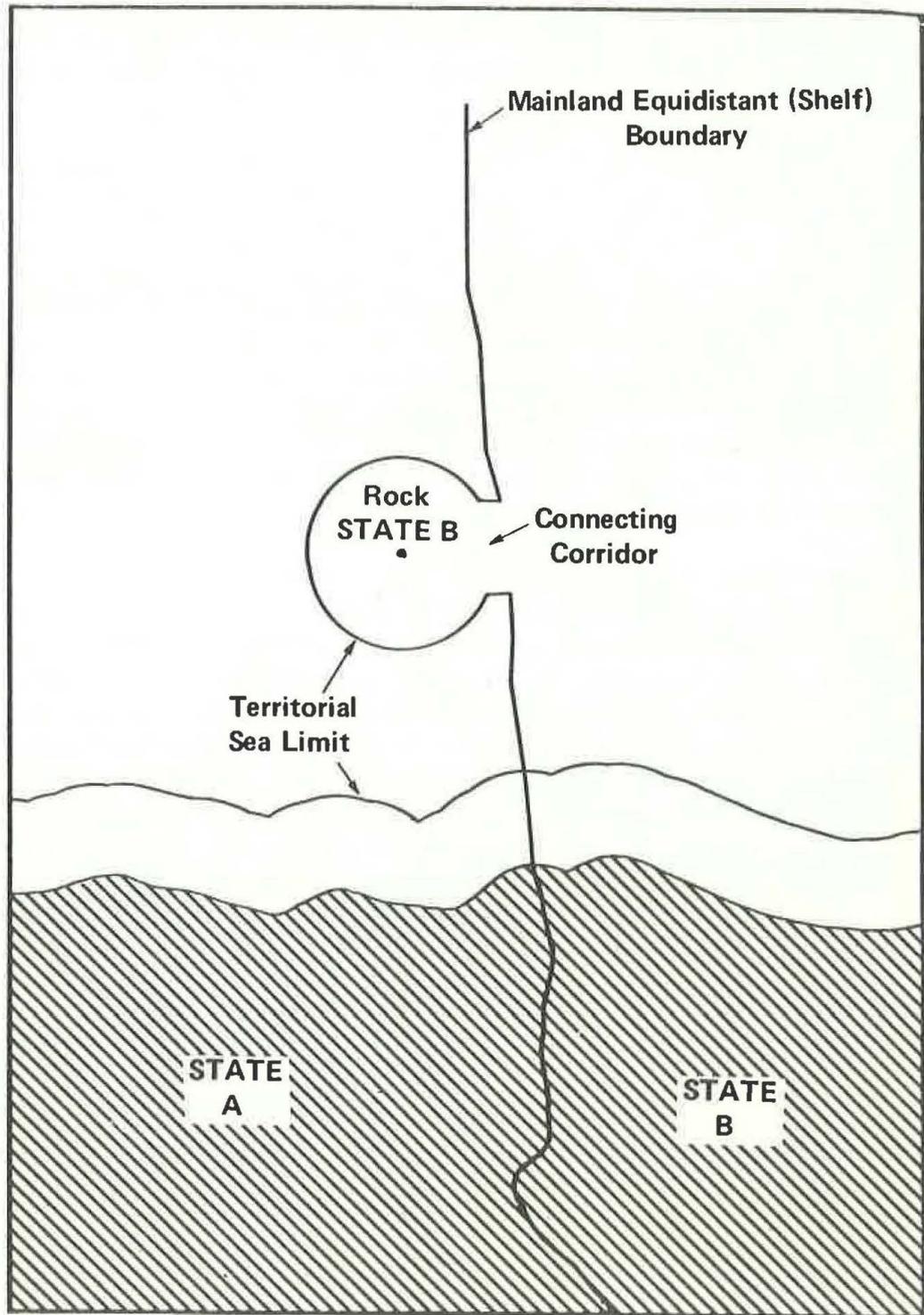


Figure 8-4. Enclave Connecting Corridor

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small areas involved in the territorial sea. The precise value to be assigned will derive from the relationship of the islet to the adjacent or opposite state. As a measure of the effect of an islet, the equidistant line should be constructed with and without the islet as a base point. If the islet remains within the territorial sea of its parent state while not serving as a base point, the islet should receive a value greater than the half-effect. Obviously, the inequity which might be caused is not an extensive one. However, if nonuse of the islet as a base point would separate it from the national territorial sea, the base point value of the islet should be reduced. Where feasible, the factor of contiguity should determine the precise value so as to avoid difficult-to-administer enclaves.

3. Isles should receive full effect on an equidistant boundary unless they are so situated, in relation to a narrow coastal state, as to affect a sizable proportion of the area of territorial sea that the coastal state might otherwise receive. A loss of one-third or more of the area would represent a potent threat. This type of situation, however, would be very rare. Two potential cases come to mind:

a. Three disputed islands lie offshore from Kuwait and Saudi Arabia. If all three of these islets/isles were to come under Saudi sovereignty, the resulting effect of an equidistant boundary would be most inequitable to Kuwait. As stated, the sovereignty over the isles remains clouded and the question is theoretical (see Figure 8-5).

b. The coastal islands south of Papua (Papua New Guinea) have been reserved to Australia. Due to the positions of these islands and their effects, they would (or could) deprive Papua New Guinea of virtually all territorial sea south of the main state area. The results could be very inequitable for this particular area. Although the percentage of the total territorial sea of the "state" may not be excessive, a condition of relative inequity would prevail. In these two situations, special regimes might be considered to protect the interests of masked coastal states.

4. Islands, as defined, should receive full effect on equidistant boundaries because of their size and importance. They are mainland in the legal-geographical sense.

As noted earlier, the grossest inequities will develop with those islands detached from the parent state which lie close onshore to a second state. The reality of the inequity, however, may be only local. It should be measured in relation to the category of the island(s) and to the effect it (they) will have on the total territorial sea of the second state. Examples of such islands are: the Channel Islands (U.K., adjacent to France); St. Pierre and Miquelon (France,

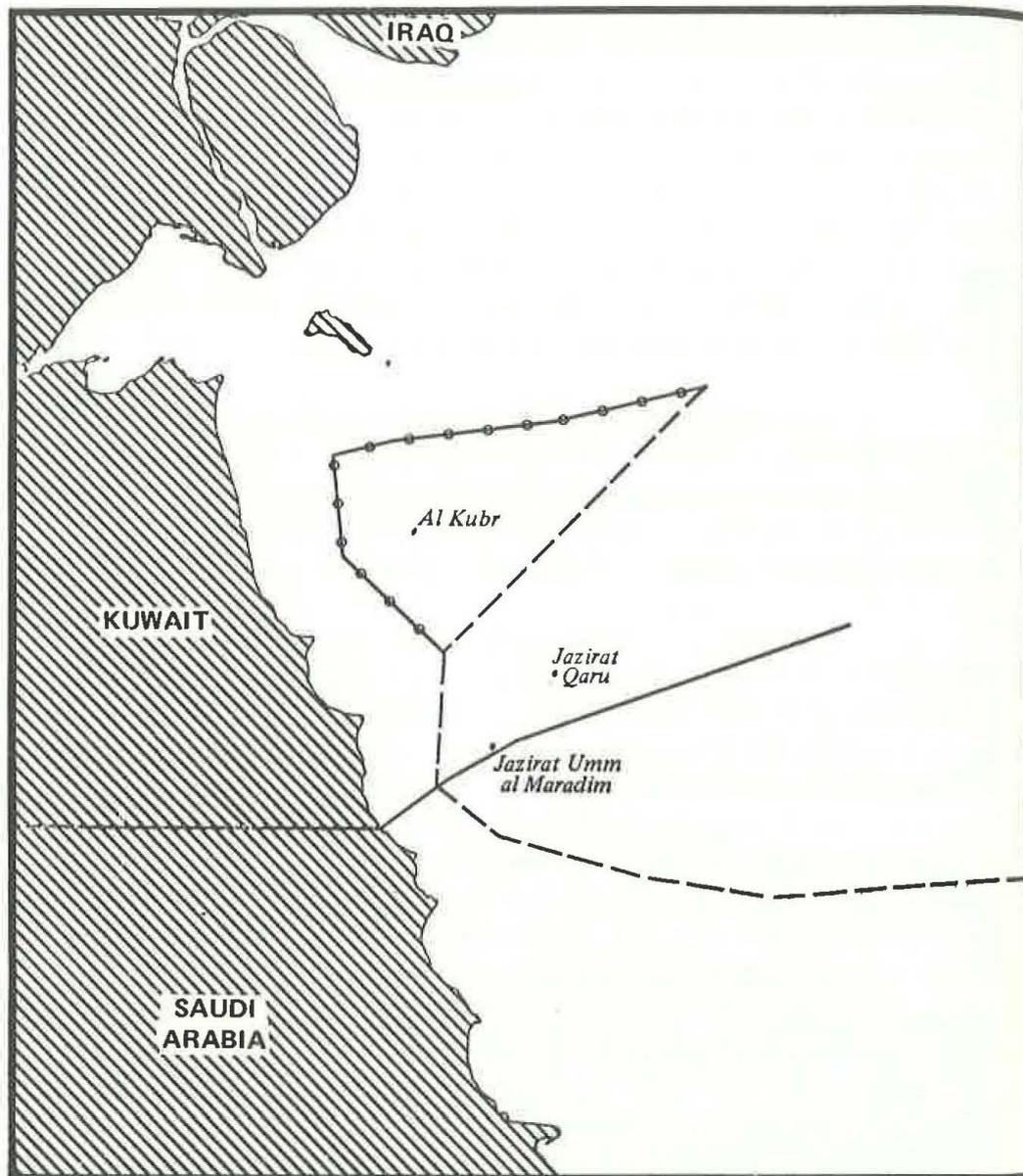


Figure 8-5. Theoretical Kuwait-Saudi Arabia Equidistant Lines

adjacent to Canada); Los Monges (Venezuela, adjacent to Colombia); Aruba-Bonaire-Curaçao (Netherlands realm, adjacent to Venezuela). These examples were chosen to illustrate that the conditions may prevail to the advantage and/or disadvantage of the same states. However, other examples can be found throughout the world, e.g., Macao, Portuguese Timor, Kamaran, etc. In a sense each of these islands is unique, but they have much in common. With the exception of Los Monges, all are inhabited and possess a large degree of local governmental autonomy. In addition, they are all situated within 24 miles of adjacent main-

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lands. With the possible exception of Aruba-Bonaire-Curaçao, none of the islands affects a sizable portion of the territorial sea of the other state. The Dutch islands, due to their linear alignment parallel to the Venezuelan coast, negate an important but relatively small segment of Venezuela's potential territorial sea. The remaining islands scarcely affect the total seas of France, Canada, and Colombia. They and similar detached islands should not be denied full value as base points except where isolated low tide elevations, rocks, or islets (as defined) may lead to local gross inequities, also as defined.

**SUMMARY**

1. Assuming a uniform twelve-mile territorial sea, islands have only a minor effect on the extension of the territorial sea of a state. Under certain circumstances a condition of inequity may develop, but it will be relatively limited in scope. Generally, each island is entitled to a territorial sea, although under certain geographic and political circumstances it may be less than the full national claim. In at least one situation, China and the United Kingdom appear to have agreed that a sector of one island of Hong Kong would have no territorial sea.

2. Islands may, according to certain criteria, be used as headlands for bays and as parts of bay-closing lines. If a nearly continuous band exists across the mouth of a bay, the islands may even form the closing line as a consequence of their linear alignment and percentage of cover of the bay mouth.

3. Where islands form a screen of the mainland, a system of straight baselines may be drawn following the general direction of the mainland coast. The system forms the new baseline independent of the mainland of the state. The prime effect of a justifiable system is to greatly increase the internal waters of a state but to have only a limited effect on the extension of the territorial sea. Exceptions may occur where certain geographic or historic conditions dominate. These conditions should be limited in scope and be justified by the state through evidence of continuous occupation.

4. Mid-ocean archipelagos, if they meet specific criteria, may be enclosed by a system of construction lines to preserve the political-geographic unity of the insular groups. Waters beyond the normal sea limits should be categorized as insular waters under national jurisdiction but not sovereignty. Transit routes must be designated across the longitudinal and transverse axes to protect the maritime interests of the world community.

5. The seaward limit of the coral reef about atolls should constitute the national baseline for the measurement of the territorial sea and contiguous

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zone. Closing lines may be drawn where openings in the reef are greater than 24 miles to maintain the basic internal waters characteristics of the atoll lagoons.

6. Islands may be categorized according to their size and habitation as (a) rocks; (b) islets; (c) isles; and (d) islands. The last-named category possesses all political-legal characteristics of continental mainlands.

7. Due to the limited extent of the territorial sea breadth, inequities caused by islands on the territorial limits of other states will be limited. Many simpler and perhaps better territorial sea boundaries—as opposed to those based on the principle of equidistance—may be negotiated. These limits may preserve the concept of equity and be easier to administer. A “least-distance perpendicular” boundary offers a logical alternative to equidistant lines in an insular area.

8. If equidistance is chosen as the basic principle for a maritime boundary delimitation, islands may be assigned varying values based upon size if inequities develop. Generally, inequities either will not occur or will be limited in extent due to the narrow breadth of the territorial sea.

9. The greater political inequities may develop with islands detached from the parent state that lie immediately adjacent to the shores of another state. Even under these conditions, gross inequities will be rare and generally local. In certain instances, access may become a greater problem than area lost.

**ISLANDS: THE CONTINENTAL SHELF  
AND THE SEABED**

While the legal definition of the continental shelf is currently elastic, the term in this discussion refers to the 200-meter depth unless otherwise indicated. Generally, the continental shelf of maritime states extends farther seaward than the territorial sea. While in certain areas, such as the western shores of the Americas, the 200-meter limit may lie within twelve miles of the baseline, on the average the shelf edge is situated more than 35 miles seaward. When the seabed is considered as an area of national jurisdiction, the distance becomes even greater. In spite of the lack of general agreement on the national limit of jurisdiction on the ocean floor, it is relatively safe to assume that the ultimate boundary will not be landward of the 200-meter isobath but probably will be seaward of it, i.e., between the 200-meter isobath and 200 nautical miles.

Islands constitute the most seaward limit of the national baseline for many coastal states. As a consequence, these bits of territory will be the last significant points for the delimitation of a boundary based upon equidistance. Since the breadths of the shelf and seabed are greater, island base points assume a greater relative importance. In addition, the random distribution of isolated,

midoceanic islands may allocate thousands of square miles of seabed to states if a distance criterion is adopted. A 200-mile seabed boundary could grant an isolated rock a 125,000-square-mile seabed area ( $200 \times 200 \times 3.1416$ ). Generally, insular inequities will be least with the territorial sea, greater with the shelf, and greatest with the seabed. Since in most areas of the world, the toe of the slope is within 200 miles of the baseline, islands could cause the greatest inequities under a 200-mile national jurisdiction parameter.

The basic instrument on the relations of islands to the ocean floor is the Geneva Convention on the Continental Shelf. The shelf convention does not, however, repeat the conditions specified in the territorial sea convention but relies on the definitions and principles contained therein. Article 1 of the shelf convention allocates a continental shelf to islands.<sup>16</sup>

For the purpose of these Articles, the term continental shelf is used as referring (a) to the seabed and subsoil of the submarine areas adjacent to the coast but outside the area of the territorial sea, to a depth of 200 meters or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources of the said areas; to the seabed and subsoil adjacent to the coasts of islands.

It would appear that every island has a legal continental shelf and, by projection, a seabed contiguous to the shelf. In the former instance, the continental shelf areas of small, isolated islands are usually minimal. Islands, when grouped, however, may be situated upon extensive shelves. One need only examine a bathymetric chart of western Indonesia to see the extent of these areas.

If the seabed relates to the depth criterion, the area adjacent to isolated islands remains restricted. With a distance boundary, the seabed becomes most expansive, being limited only by the selected breadth and by the geographic relationships of adjacency. Other factors, which will be discussed later, could be deemed to prevail.

## **GEOGRAPHIC RELATIONSHIPS**

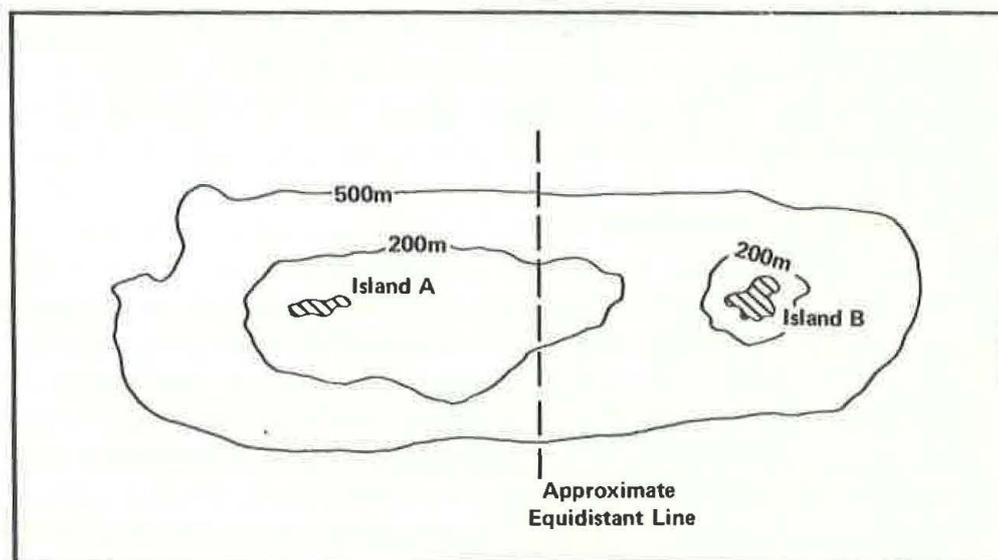
Most of the provisions of the Convention on the Continental Shelf are very general and were drafted without a deep or acute examination of existing physical situations. The conference appeared to conceive of the world as relatively uncomplicated and regulated in its physical relationships. Unfortunately, even a brief examination of conditions shows that simplifications do not prevail in the three-dimensional world of the shelf and the seabed. Islands and bathymetry combine to produce a myriad of potential combinations each of which may defy solution on the general principles of the Convention. These geographic relationships are far more complicated than those involved in the territorial sea, in scope

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as well as in dimension. As a consequence, states may more quickly resort to the "special circumstances" clause to claim that inequities exist.

Two islands of differing sovereignty, for example, may be located upon the same oceanic ridge. The "shelf" area of one island may be more extensive than the other (see Figure 8-6). The prolongation of the 200-meter isobath of Island A obviously extends closer in certain areas to the land territory of Island B than to its own baseline. Should the boundary be an equidistant line? Can one say that the shelf area about Island A should adhere to Island B, from which it is physically separated according to one criterion? How may one determine equity or, for that matter, really define it under the terms of the Convention? One may question if equity relates to the resulting areal allocations, which are fairly equal, or to the justice of the unity of the prolongation of the feature. How may the boundary expert balance parameters involving depth (200 meters), distance (adjacency) and technology (exploitability) in a rational and equitable manner? Boundary criteria must be altered—simplified or clarified—to clear the current jungle. If a depth criterion is used to determine seabed limit, boundary relationships between states should not relate, under all circumstances, to mileage, i.e., an equally distant line. Conversely, if the relationships are based on distance, bathymetry need not be deemed relevant.

However, the Convention remains valid and will prevail until replaced, revised or expanded. Solutions to maritime boundary problems must relate to all aspects of the conventions on the territorial sea and the continental shelf as well as to developing customary practices of states and of the courts, e.g., the ICJ North Sea Cases. In the latter, however, many of the seemingly rele-



**Figure 8-6.** Islands: Equidistance vs. Depth

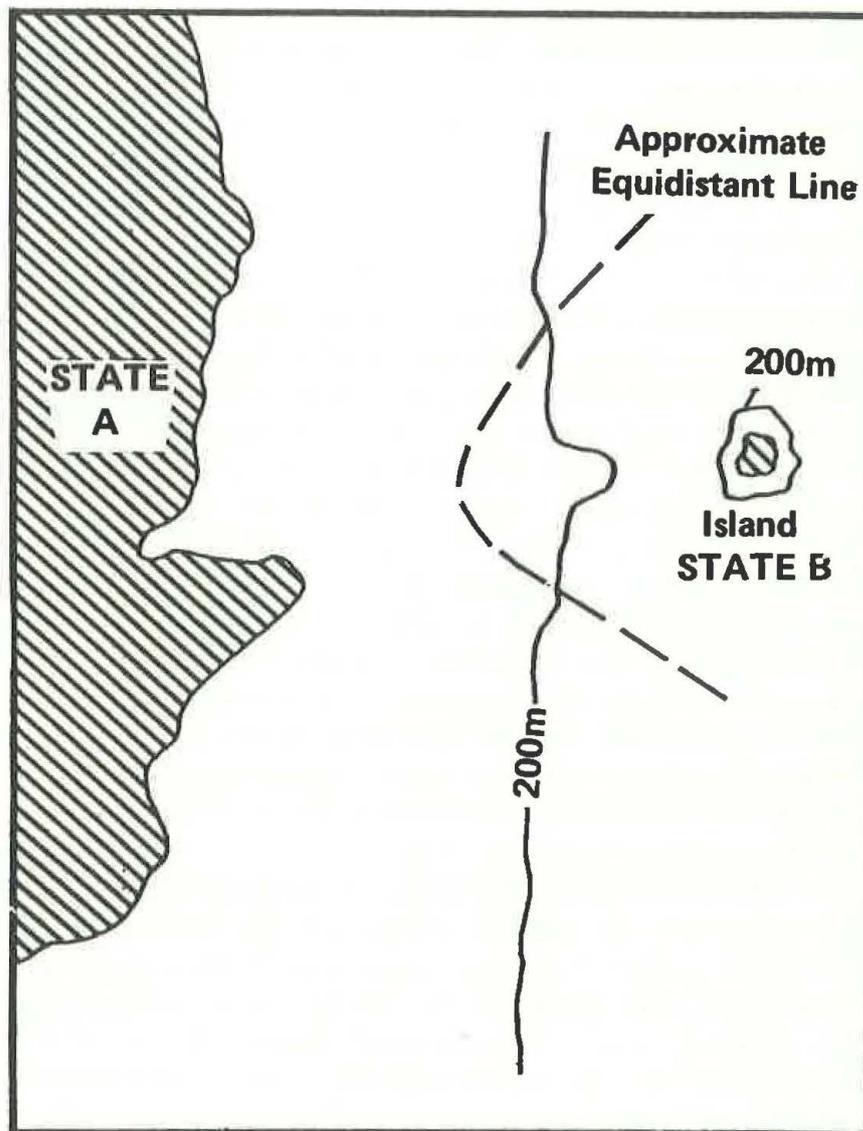
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vant points may prove geographically irrelevant. For example, under certain conditions, it may be impossible to delimit "natural prolongations" in conditions of natural adjacency. How may one determine the limit between Dutch and German prolongations in the North Sea when nearly identical geographical conditions exist on land? In addition, the Court stated that the resulting division of the shelf, to be equitable, should relate to the respective coastal lengths of the adjacent states. The litigants—Germany vs. Denmark and the Netherlands—have virtually identical coastal morphology: low tidal flats fringed by islands aligned parallel to the coastline. A constant factor prevails. What would the relationships be if one state possessed many islands and the other few or none? Should the coastal lengths of the islands be added to that of the mainland? Should both the seaward and the landward coasts of the islands be included in the measurements?

It would appear just that the bases for settlement should rest not only on seeming equity but also on equity based on relevant geographic facts. To include the total perimeter of an island or islands could lead to excesses and injustice. The comparison of coastal lengths should relate only to those portions of the coastline that directly affect the measurement of the territorial sea. These might be determined by the construction of special systems of straight baselines for the purpose, or by a direct comparison of the areas of the territorial sea involved (assuming, of course, identical breadth of claims). The latter probably would produce the greatest equity for it would remove from influence areas of internal and tidal waters that do not directly relate to the territorial sea. Many irrelevancies would be eliminated as a result.

While the North Sea Cases applied to adjacent states, the same conditions may prevail when state positions are opposite. (See Figure 8-7 for an illustration of a similar problem.) One may argue, on depth alone, that Island B, separated by deeper water, should receive only the circular shelf area immediately about it. Adjacency begs the issue and would assign to B a portion of the shelf which "prolongs" from A. Of greater complexity is the situation where B sits astride the same shelf areas but is separated from its parent state by deeper water. To a degree, the answers to these questions concern (a) the relationships of islands to each other and/or to the mainlands, (b) their size, as previously discussed, and (c) their status.

These illustrations, however, focus on certain of the issues which have been raised and on which the language of the Convention and of the North Sea Cases do not assist. The Court cannot be expected to adjudicate the many maritime boundary problems which are evolving unless certain objective and specific criteria are created to assist in problems of delimitation for all jurisdictions: sovereignty, sovereign rights, economic resource zones, fisheries zones, etc. It should be recognized that most current maritime boundary discussions have related to seabed resource allocations. However, if a fisheries convention is drafted, whether based on species or on a zonal approach, limits will be required between adjacent states and even, under certain conditions, between opposite states.



**Figure 8-7.** Islands and Mainland Shelf: Equidistance vs. Depth

The only alternative is a regional zone of common usage, but limits between zones will still be necessary. For example, how may one define the limits between the United States and Canada—species or zonal—for the allocation of fisheries rights or conservation? Will the same boundary for fisheries apply also to the shelf? Would two noncoextensive limits be acceptable? Do the same parameters prevail? Will additional “special circumstances” become issues?

### ISLANDS AND SHELF BOUNDARIES: NORMAL OR SPECIAL CIRCUMSTANCE?

The language of the shelf convention pertaining to limits is similar to that of the territorial sea convention. Curious differences in language occur that may or may not have meaning.

#### Article 6<sup>17</sup>

1. Where the same continental shelf is adjacent to the territories of two or more States whose coasts are opposite each other, the boundary of the continental shelf appertaining to such States shall be determined by agreement between them. In the absence of agreement, and unless another boundary line is justified by special circumstances, the boundary is the median line, every point of which is equidistant from the nearest points of the baselines from which the breadth of the territorial sea of each State is measured.

2. Where the same continental shelf is adjacent to the territories of two adjacent States, the boundary of the continental shelf shall be determined by agreement between them. 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.

3. In delimiting the boundaries of the continental shelf, any lines which are drawn in accordance with the principles set out in paragraphs 1 and 2 of this article should be defined with reference to charts and geographical features as they exist at a particular date, and reference should be made to fixed permanent identifiable points on the land.

Both conventions specify that boundaries should be determined by agreement between the states concerned. Both acknowledge the influence of (undefined) "special circumstances." Note that the territorial sea convention states that "failing agreement to the contrary" neither state is "entitled to extend its territorial sea beyond the median [equidistant] line. . . ." The strange difference in the language of the shelf convention's paragraph 1—"in the absence of agreement . . . , the boundary *is* the median line"—appears to place a much greater emphasis on the mandatory use of equidistance.

While this language may have been intended to establish a more secure tenure for exploitation in the absence of agreement, it also appears to lead directly, as a result of the influence of islands, to a greater potential for

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special circumstances to question the validity of the principle involved. This action would be the direct result of the increasing chances of inequity induced by islands, which develop as distances from the baseline increase.

One perceives that islands may have, on the basis of equidistance, a full effect as basepoints equal to any continental or mainland base point for the construction of a continental shelf boundary under certain conditions. Under differing conditions, islands may also be disregarded completely in the construction of an equidistant shelf boundary as sources of gross inequity. In between these two obvious extremes, there exist gray areas where the use of an island or a type of an island as base points might be assigned a partial value. The precise degree of utilization of the island will relate to the particular factors which are involved in the specific case. Finally, unique conditions may prevail, as a result of insular treatment, to warrant very unusual determinations or arrangements. These last-named conditions presumably will be most limited in application, for exceptions normally prove the rule.

**Islands: Full Effect on Shelf Boundaries**

In the categorization of islands by size under the discussion of the territorial sea, it was hypothesized that certain islands constitute mainland as a consequence of their size and importance. By definition, these islands were larger than 1,000 square miles in area and were inhabited by a particular population. While the political status of the islands was not deemed determinative, nearly all were found to be independent, either in themselves or as constituent and integral parts of an independent state, or they had attained an autonomous status which conferred many of the attributes of self-government.

There does not appear to be any logical combination of circumstances that would justify denying these islands full effect as well on the delimitation of a continental shelf or of a seabed boundary. These islands constitute major and significant geographic entities of a magnitude to warrant their particular status. As such, shelf and seabed would devolve to them as "mainland." Cuba, Greenland, Borneo, et al., possess all of the attributes of mainland in themselves, and they should not be denied rights associated with their nature.

The problem will always be raised under any absolute scale of values, and perhaps rightly: If 1,000 square miles would constitute mainland, why not 999? Or 998? Or 997? In any categorization of scientific phenomena, certain specific parameters are chosen to delineate each species. Most examples will meet the limits handily, but occasionally unusual circumstances may lead to deviations. One may only recommend that the individual cases be examined on their merits to determine exceptions to the rule. It is suspected that few exceptions will occur.

A second group of islands that should have full effect on continental shelf boundaries are those which relate geographically to the mainland in such a way as to constitute a cohesive part thereof. Regardless of size, these islands are

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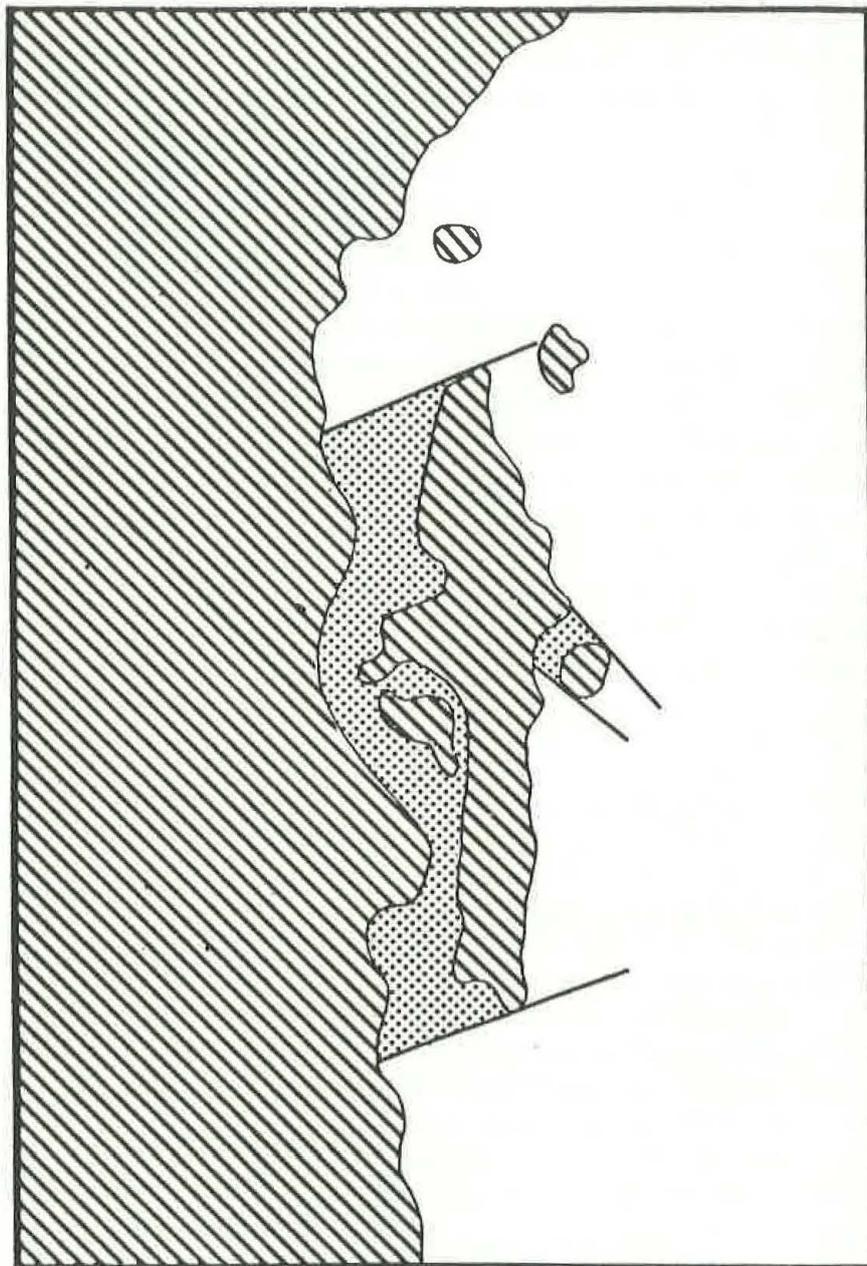
situated so as to be linked geographically to the land. Two tests may be used to determine this interrelationship: Boggs<sup>18</sup> recommended that lines be drawn tangent to the ends of the island axis that relates to the mainland coastal direction. The parallel lines should be constructed to enclose the minimum area of low water surface between the island and the mainland. If the area of the island exceeds the water surface, the island should be treated as mainland and used as full-effect base points on the national baseline for adjacent or opposite equidistant determinations. Conversely, if the water area is greater than the area of the island, it should not receive a full effect depending on other circumstances. Generally the land-water relationships are obvious; in certain cases, however, the areas will require multiple measurements to assure the minimum water area selection and the proper land-water relationship. The identical system may be used, of course, to relate smaller islands to mainland islands or to group smaller islands and to obtain greater and more significant relationships (see Figure 8-8).

The second test<sup>19</sup> has been developed to validate the use of islands as headlands to bays, but the same general conditions prevail for the mainland/island relationship. In effect, the goals and associations are identical. The island should not be situated at a significant distance from the mainland shore, and

. . . the area of the island should be greater than the intervening water body. The latter, in configuration, should ideally be channel-like. . . . The character of a channel may be easily established by relating the length of the water course to its average width. Closing lines may be drawn at the natural entrance points. These would, of course, be determined by the application of the 45° test as in the bay situation. The average width, assuming nearly parallel banks for the channels, may be determined by averaging the lengths of the two closing lines. The length of the channel may be measured along the line connecting the mid-points of the two closing lines. To be truly channel-like the ratio of the length to the average width should be 3:1 or greater. A lesser ratio would not exhibit the true riverine characteristics of a channel. . . . Rather, the feature would be more bay-like in its two dimensional configuration.<sup>20</sup> (See Figure 8-9.)

The latter test may be utilized to relate an island of any category to continental mainland—or an island of any category to a mainland island. In this manner, islands smaller than 1,000 square miles in area may be entitled to full effect if they have the proper areal associations with “mainlands.”

It should be noted that the two tests are likely to have differing effects, and they may prove to be useful under diverse conditions. Boggs's proposal, for example, would be particularly useful for islands whose long axes are perpendicular to the coastline while the Hodgson-Alexander test favors those exhibiting parallel relationships. Logic may indicate, as islands become “unitized,” that the area of the “unit,” i.e., land and water, be used to further extend



**Figure 8-8.** Island-Mainland, After Boggs

the unit as full-effect base points for the shelf determination of linear insular units, e.g., the Kurils, Aleutians, the Ryukyus.

A third group of islands would also call for full effect as equidistance base points, i.e., where the insular geography is identical or nearly identical. In these situations, which normally will prevail for adjacent states but may also for opposite states, the presence of many offshore islands along the coasts of two

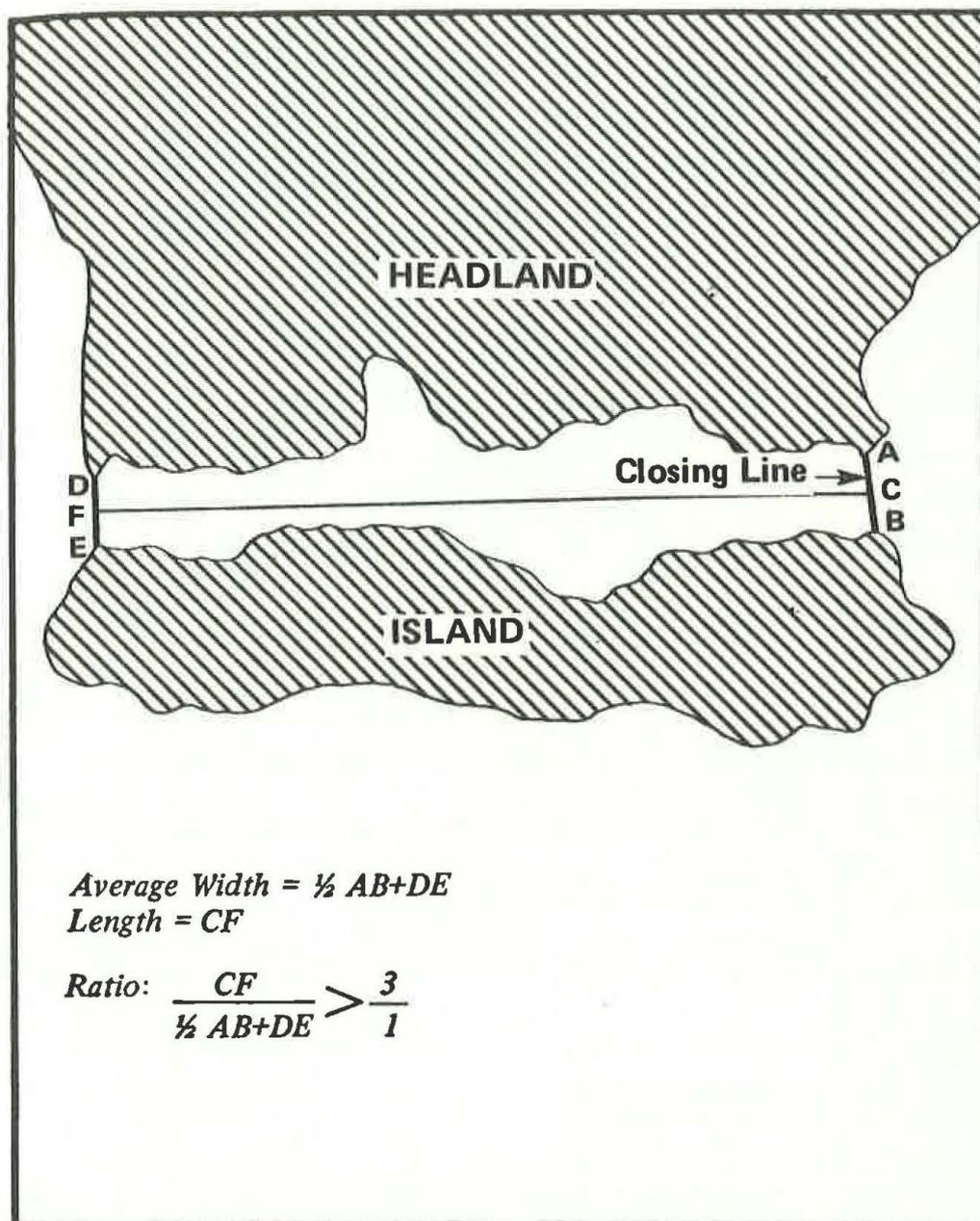


Figure 8-9. Channel: Ratio of Length to Width

states will tend to equalize the effects on equidistance. Since no single state will appear to gain a marked advantage, the islands should be granted their normal influence on the construction of the median or lateral boundaries. A practical application of the effect of the islands would involve the construction of equidistance lines using the islands (with full effect) and not using them. If the practical deviations in total areal allocations are relatively minor, the islands should be granted their total value.

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Many states have followed this criterion in their delimitation of shelf boundaries. Norway and Sweden have granted full effect<sup>21</sup> to their respective islands, as have the principal states in the delimitation of the shelf boundaries in the North Sea.<sup>22</sup> No appreciable advantage accrues to the coastal state if it refuses value to the islands of the second state while also denying value to its own insularity.

Northcutt Ely<sup>23</sup> has suggested a fourth situation in which an island might be granted full effect. He wrote

. . . an islet should be *prima facie* entitled to recognition of its coasts as a component of a baseline for demarcation of seabed boundaries if any portion of the islet lies within 24 nautical miles of the coast of its owner's mainland or major island. This is because the island's 12-mile contiguous zone merges with the 12-mile contiguous zone of the larger land territory, the two thus forming an envelope encompassing both.

It would appear that the author conceived of the situation of opposite states in a relatively large semienclosed sea situation. His rule could, for example, lead to inequity in an adjacent situation or in a narrow sea. While Ely chose not to define "islet" and "major island," it seems obvious from his remarks that he would probably equate islet with rock and probably with islet as previously defined herein. In turn, "major island" could be presumed to include isles and islands, also as defined. The concept has merit, particularly for the situation for which it appears to have been developed. It may also be applied in the negative sense as the author intended. This point will be expanded later.

A fifth situation also calls for the full effect of islands, although care must be exercised in the application. An independent state, or perhaps even an autonomous insular state, should possess territory that warrants treatment as mainland. While it was stressed earlier that political status should not exercise a negative effect on the value of islands as basepoints, justice would appear to demand that the status of independence or near-independence should entitle a small island state to all the attributes of mainland. It is difficult to conceive of such a small state being deprived justifiably of shelf and/or seabed merely on the basis of size. While few independent and small insular states are situated in close proximity to other states, the potential exists. With the increasing trend for independence on the part of small areas, the world may well see in the near future many of these entities, which will be limited in territory. Equity should logically demand a maritime domain undiminished by the special circumstance of small-area insularity.

It is difficult to assess how far the premise should be extended. While the need for independent states would be obvious, the requirements of the autonomous state could be equally as great. Problems then arise, as pointed out before, of degree of autonomy and of the dynamics of political change. The answer is by no means clear.

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Nevertheless, we should not assume that since an independent small island group is entitled to full effect, all rocks, islets, and isles of the state should have full effect. The general premises established before should dominate once the "mainland" territory has been identified.

The sixth and final condition that should lead to full effect for islands stems from mutual agreement of the parties concerned. Reasons beyond those directly concerned with the law of the sea and the seabeds may affect a state's perception of the issues at stake. As a consequence, the factor of island-induced inequity may not be relevant to national problems. Within the framework of marine jurisdiction, however, both states will probably have considered the previously enumerated situations and have determined to disregard the consequences of islands on boundary delimitations.

**Islands: No Effect on Shelf Boundaries**

At the other extreme in the delineation of shelf limits, we perceived situations where islands would be totally disregarded as base points. Generally, the elimination of these islands stems from the negotiating process, and hence the factor of mutual agreement enters into the arrangement. Without dwelling on the obvious factor, there are certain geographical situations where islands should clearly be disregarded as base points.

The first example would include islands which are in dispute. More properly, the issue should involve the establishment and recognition of national jurisdiction over insular territories. If the mere criterion of "dispute" is used, a nation wishing to disclaim the effect of an island need only to establish a contrary claim to sovereignty. As a consequence, a need exists to clarify the status of the dispute in relation to the time of negotiation for the shelf boundary; most of the islands in dispute are currently known, although perhaps not universally acknowledged.

As cited earlier, most disputed islands are situated in the immediate vicinity of the seaward termini of international land boundaries or are in the middle of seas or oceans relatively distant from land. In the former instance, which will affect lateral limits, the presence of a single island in dispute will cause considerable diplomatic problems. If the island happens to be situated in the mouth of a river or stream which is the land boundary, the influence of the island will be very small. In fact, it may and perhaps should be disregarded in the delimitation of the boundary, for at shelf and seabed distances from the baseline, the effects of these nearshore islands will be minimal.

If the island is situated reasonably distant—e.g., twelve miles offshore—however, a serious problem in delimitation may occur. Since most of these islands will prove to be rocks or islets, they should reasonably be eliminated as factors. Pending the solution of the dispute, a twelve-nautical-mile area could be assigned to the disputed island(s) and the resources allocated equally to the claimant states. Since the area will most probably be small, the equal allocation would appear reasonable. The proposed solution, however, may be a non-

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solution. If the states can agree on the allocation of the revenues they can also agree on the allocation of the territory. Furthermore, the oil companies may not be interested in making the necessary heavy investment when it could pass to another state or to another company.

The second category of islands to be disregarded in the construction of equidistant boundaries are those situated in the middle of restricted water bodies, i.e., semienclosed or enclosed seas. Generally, these islands will be small and uninhabited, falling in the rock and islet categories previously defined. Many of these troublesome "dots" of real estate are found within twelve miles of the equidistant line constructed without their use as basepoints. These islands have the effect of displacing (assuming a position near midpoint on an opposite situation) the boundary approximately a quarter of the width of the body of water; they may continue to influence a displacement along the water body's length for a maximum distance equal to the width of the body. The inequity would be obvious.

Many states have adopted this principle or practice. Italy and Yugoslavia,<sup>24</sup> Iran and Saudi Arabia,<sup>25</sup> and Abu Dhabi and Qatar,<sup>26</sup> to name a few, have agreed to eliminate as base points the troublesome islets in midsea or even along the midline of adjacent coasts. In the first two negotiations, the islets received twelve-mile "seas" in their general vicinities but did not displace the median lines at greater distances. In the last-named agreement, the island in question received a three-mile sea, equal to the claimed territorial seas of both states. Of interest, however, the Yugoslav islands in the middle Adriatic receive twelve-mile limits although Yugoslavia only claims a ten-mile sea and Italy a six-mile sea. The acceptance of twelve miles appears to relate to the contiguous zone breadth of the territorial sea convention.

The third category of islands to be disregarded stems from the Ely proposal noted earlier. Ely states ". . . we would disqualify isolated islands which are not only too distant to be in contact with the contiguous zone envelope of their owner's territories, but which are also uninhabited or support only caretakers or other tokens of the owner's sovereignty, such as lighthouses or communications facilities."<sup>27</sup> The premise is excellent, again within the framework of opposite states in enclosed or semienclosed seas. Difficulties, however, may be encountered with the concept as distances increase. For example, an islet may be situated upon a tongue of continental platform, a sub-200-meter shelf plateau, which is isolated from the territory of two other states to the north and to the south by relatively significant trenches. The same plateau may extend continuously eastward to territory of the administering state. The uninhabited islet is obviously more than 24 miles from all other land area. Should the islet have only a twelve-mile zone with the division of the plateau to be made from the "mainland" of other territory? Or is it to be given an effect on a seabed boundary? On shelf allocations, in the restricted sense, the value of the islet on the allocations of the adjacent states would of course be negligible.

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Equity, based on area or concentration of land considerations, would appear to demand that these isolated geographic phenomena be discounted if adjacency and depth continue as dominant criteria for maritime boundaries.

The fourth and final condition whereby islands would be discounted as base points involves agreement of states. For the Italo-Yugoslav shelf boundary delimitation previously discussed, the Italian Tremiti island group, which is situated approximately twelve miles from the mainland, has not been used as base points for the boundary delimitation. The effect of these islands on the boundary would have been limited in any event due to their proximity to the mid-sea Yugoslav islets. A similar situation developed between Bahrain and Saudi Arabia, on a lateral boundary development, where selected points chosen for the construction of the boundary ignored rocks, islets, and low tide elevations. A simpler boundary resulted. Thus the ignoring of small islands may involve the desire for simplification of alignment or the perception of equity. In either instance, developing state practice does acknowledge a case for the elimination of certain insular base points. The islands so involved have generally been allocated a territorial sea (and associated shelf) equal to the claimed territorial sea or to a twelve-mile contiguous zone. Certain low tide elevations have not been granted equivalent rights.

**Islands: Partial Effect on Shelf Boundaries**

The vast gray area of shelf boundary delimitation occurs with islands which, because of size and/or population combined with geographic position, can neither be ignored nor granted a full value for the construction of equidistant lines. The prime example of partial use stems from the Saudi Arabia-Iran shelf negotiations in the Persian Gulf. In the original negotiations, which were later modified,<sup>28</sup> the Iranian island of Kharg caused disagreement. Kharg occupies about eight square miles and at the time was sparsely inhabited. Situated approximately seventeen miles from the Iranian shore, the use of the island as a baseline element caused Saudi apprehensions. Its displacement of the boundary was critical in its effects on known petroleum fields situated near the center of the Gulf. By agreement, the isle received a half-effect, i.e., the boundary was to be delimited halfway between the lines constructed with Kharg as national baseline and lines constructed without it.

The treatment of Kharg conflicts with Ely's suggestion of full value for all inhabited islands within 24 miles of the national baseline. Nevertheless, the underlying logic of the negotiators remains valid. Kharg is an isolated isle, a solitary phenomenon only lightly inhabited. Full effect would have displaced the boundary approximately eight miles towards Saudi Arabia in an area of known petroleum deposits. The results of half-effect reduces the displacement, on the average, to approximately four miles. Kharg most probably received this special allocation because the general outlines of the mid-Gulf oil fields were known and

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concessions had been granted. In effect, the solution confirmed the existing situation as conforming with "reality" although minor modifications had to be made later.

The question arises, Would the agreement have been made in the same manner if the resources were suspected but their exact location not known? Or would the agreement have been the same if the oil deposits were farther to the west so that a half-effect line would have placed them entirely in Saudi Arabia? While the question is essentially academic, the answer would probably be negative. Prof. H. Gary Knight has suggested that a procedural device might be devised whereby part of the negotiations would involve a study of the potential resources of the disputed area. The study could be made by the countries or an impartial arbiter. The knowledge of the resource location, or nonlocation, could contribute to the equitable solution of the dispute.

Kharg has since grown in importance with offshore petroleum development and is now a major transshipment point. An offshore loading zone, connected with the island by the world's largest submarine pipeline (56-inch diameter), will service 300,000-500,000 DWT tankers from a steel "island," 1,800 by 310 feet, situated 4,500 feet offshore.

A second group of islands deserves a partial effect—*islands situated near the median zone but inhabited by sizable populations of indigenous peoples.* Reports have been received that Italy and Tunisia have agreed, in principle, on a median line boundary between the two states. The negotiations were complicated by the presence of several small Italian islands—*Pantelleria and the Pelagie group.*<sup>29</sup> Tunisia demanded that the islands be discounted while Italy's claim called for their use as base points. The agreement in principle gives to each island a thirteen-mile zone of Italian jurisdiction; the final delimitation has not been accomplished, however.

The choice of thirteen miles is curious. The shortest distance between *Pantelleria (Italy) and the Tunisian baseline* is approximately 38 miles. Full effect would have displaced the boundary about 19 miles; half effect, 9.5 miles. In contrast, *Lampione* lies approximately 60 miles distant and the relationships would be 30 and 15 miles, respectively. Thirteen miles represents, hypothetically, nearly the average of the half-effects of the two islands. While the bases for the negotiation are not known, the agreement assigns to Italy a seabed zone of jurisdiction greater than the claimed territorial sea and contiguous zone which, accidentally or by design, allocates to the islands an average half-effect. The thirteen-mile zone does little violence to the unity of the shelf that prolongs from the Tunisian coast. *Lampione* lies on that shelf; the other islands are separated by narrow stretches of water deeper than 200 meters.

A second arrangement occurs in the *Indonesia-Malaysia shelf boundary*; here lateral limits are involved. The Malaysian baseline comprises the coast of Borneo, which is virtually without offshore islands. In contrast, Indonesia possesses two island groups that extend northward roughly perpendicular to the

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Malaysian baseline (a true equidistant boundary would extend northeastward). The Natuna island groups, however, have not been assigned full value as base points on the boundary.<sup>30</sup> The boundary, defined seaward by points 22-25, extends as shown in Table 8-5.

As the boundary projects farther seaward the islands have been granted lesser values, even though the more seaward islands are larger in size than those closer onshore. The boundary effect gives islands a decreasing importance, which averages almost three-quarters value. The terminal point, 25, has approximately half-effect. Consequently, partial effect ranges from approximately half at the terminus to nearly full value (86%) onshore, to produce a boundary of apparent equity in a condition where islands greatly favored one state.

Detached islands constitute a third group that could or should be assigned less than full value as base point. (The choice of examples does not necessarily indicate that they should have reduced values.) The islands assume two different geographic characters: (1) those which lie in a position that may connect with the jurisdictional area of the homeland under certain criteria; and (2) those totally removed from any direct connection with the state. Examples of these would be the Channel Islands and St. Pierre and Miquelon.

The heavily populated and quasi-independent Channel Islands, situated adjacent to France, lie more than 47 miles from the nearest U.K. territory (see Figure 8-10). Due to the configuration of the French coast and the arrangement of the islands, a full-effect equidistant boundary would connect the "shelf" of the Channel Islands with that of the U.K. To allocate the islands a twelve-mile zone would leave them as enclaves and would appear inequitable. The islands with full effect would influence an equidistant line approximately 24 miles to the north, 34 miles to the northwest, and 40 miles to west northwest. The area between a line connecting these points and the twelve-mile limit measures approximately 1,100 square miles. The island area, in contrast, totals only 57 square miles (both areas are in square nautical miles). The entire French shelf area (beyond twelve miles) is estimated at 23,000 square miles.

The Channel Islands could thus affect about 5 percent of the total

**Table 8-5. Natuna Island Groups Boundary Effect**

<i>Points</i>	<i>Distance</i>		<i>Island Effect</i>
	<i>Indonesian Islands</i>	<i>Malaysia</i>	
22	50	58	.86
23	103	139	.74
24	125	185	.68
25	132	236	.56
		Average	.71

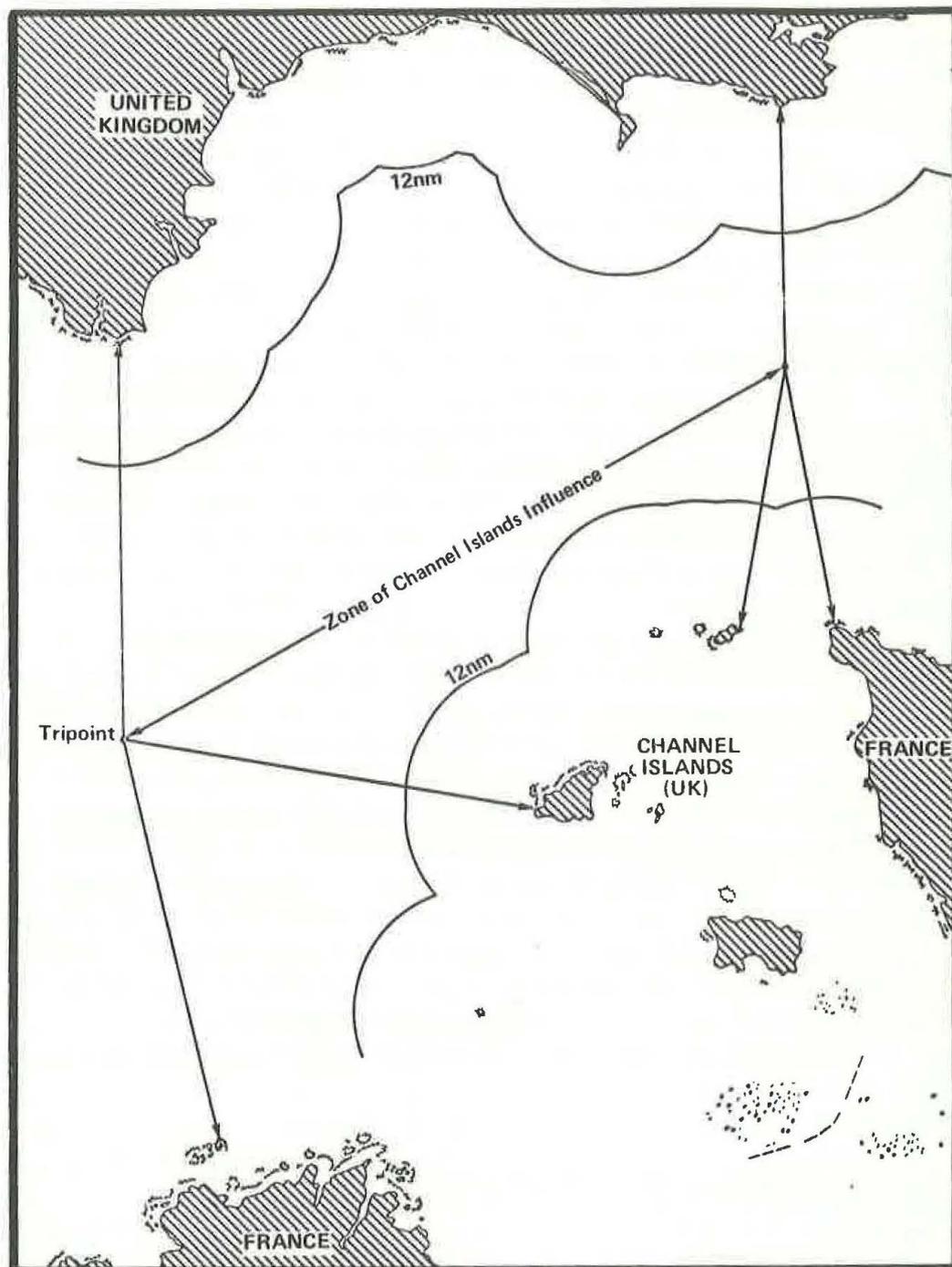


Figure 8-10. Relationship of Channel Islands

French allocation. The percentage is sizable in comparison to the two land areas involved. Two solutions could prevail if partial value were to be required: (1) A delimitation could be made that would maintain a contiguity of the seabed with

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that of the U.K. A greater area could be allocated in the north to permit a worthwhile interconnection, while a lesser value would be assigned to the west as compensation. The result could approximate a half-effect value. (2) A zone of shelf jurisdiction could be allocated at a distance greater than twelve miles for the entire area. The region would remain an enclave within French shelf area jurisdiction if the value assigned did not exceed 24 miles. A value between 17 and 20 miles would appear to grant the half-effect. While the enclave would be a rare occurrence, it would not be unique; in fact, as limits of maritime jurisdictions are delimited throughout the world, enclaves will probably become increasingly more common.

In the St. Pierre example, no question exists of the isolation of the jurisdictional area from other than Canadian territory. Because of coastal configuration, the islands appear to exert an effect on equidistant limits for approximately 200 miles seaward of the islands. The zone forms a relatively narrow triangle, which would contain a significant area of shelf and seabed in relation to the limited population (6,000) and small area (90 sq. miles) of the territory. The need to restrict the base point value would seem to be apparent.

A fourth category of islands that could warrant a partial effect on equidistant limits are small islands (islets and isles) which constitute significant segments of national territory. Several conditions advanced earlier might lead to these small islands being discounted entirely in equidistant boundary delimitations. However, they should not be totally disregarded if both a significant number of these islands exist or have a relatively widespread distribution and if they constitute a significant part of the area of a state. One might conceive, for example, that isolated keys such as the Morant and Pedro Cays of Jamaica could be questioned as base points due to their small size. Jamaica, however, possesses a limited area, and the Cays constitute a relatively significant segment of it. They should not, as a consequence, be totally disregarded for the sake of equity. Since each situation of this type is unique, it is difficult to generalize further without additional examination of the individual situations.

Finally, under certain circumstances the islands of adjacent or opposite states may be assigned relative values of differing weights by agreement. In the shoreward sector of the Fenno-Soviet continental shelf boundary, the boundary relates to the Finnish and Soviet islands in a nearly constant 4:5 ratio. More seaward areas, however, are virtually equidistant. One may hypothesize reasons, e.g., security, for such actions, but it may be sufficient to note that an agreement has been made.

**Islands: Special Conditions**

The previous discussion has dealt with islands as individual base points. Islands, of course, may be integrated by systems of straight baselines in which the lines, rather than the islands, become the national baselines. In this event, two potential problems may occur:

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1. A straight baseline system may incorporate within it rocks, islets, and/or isles which, by prior criteria, should be discounted as base points. If this situation prevails, an inequity will obviously develop and will be compounded by the characteristics of the system. The straight baselines system should then be restricted to the development of the territorial sea and eliminated for the purposes of constructing an equidistant shelf or seabed boundary. Again the degree of inequity may be found by developing boundaries with and without the use of the straight baselines. Many national systems contain excesses that should not be perpetuated in the shelf and seabed boundaries, thus creating (because of distance) even greater inequities.

2. One state may opt to draw straight baselines within the intent of the Convention while the adjacent or opposite state may not elect to establish a system. The construction of an equidistant boundary between straight (base) lines and random points (islands) results in a sinuous boundary. Along any line segment, an infinite number of points exists between turning points. To create equidistance between the line and one point (island) requires an infinite number of perpendicular bisectors to determine the equidistant points. An arc results (see Figure 8-11). This type of boundary would be difficult, if not impossible, to develop and intolerable to administer.

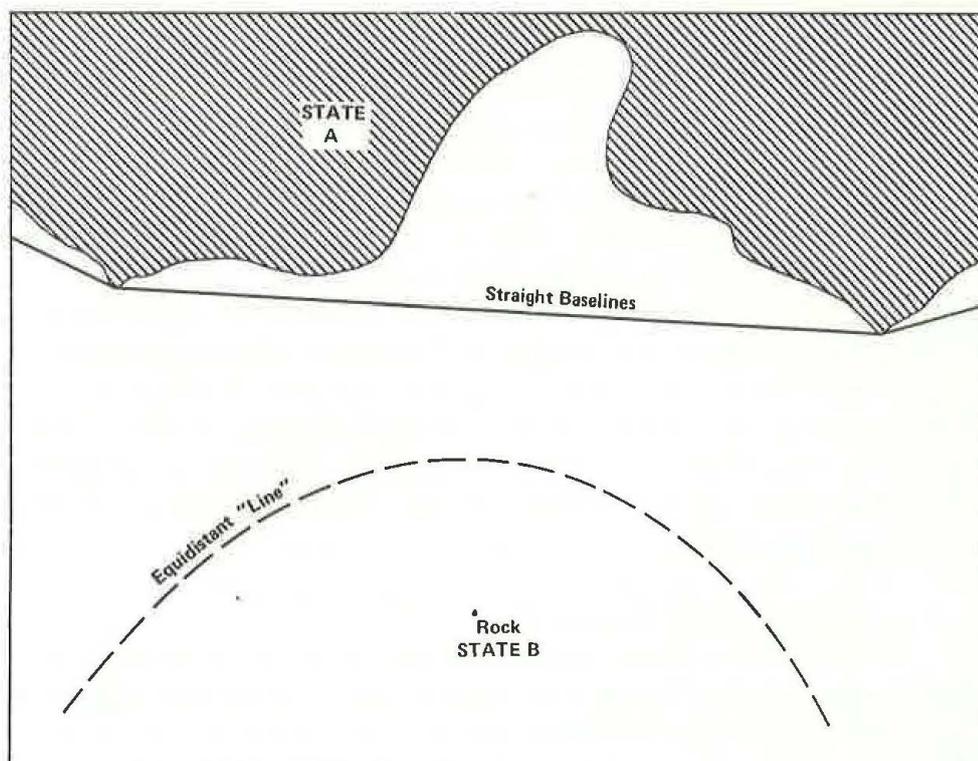


Figure 8-11. Equidistance: Straight Baselines and Island (Rock)

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Two obvious solutions become available. The straight baselines of the one state should be ignored for the purposes of delimitation, or the second state should construct a straight baseline system for the purposes of determining the boundary. In the latter event, the system should be designed as nearly identical as possible to the existing system. The parameters will relate to: length of line, angle of the line to the coastline's general direction, and maximum distance of the lines from the intervening shoreline. Should a marked difference in insularity exist, the straight baseline system should be drawn, as feasible, to mainland basepoints to conform with length of line and coastal azimuth. Generally, an equidistance boundary will be easier to construct between straight lines, i.e., bisectors of the angle made by the intersections of the lines, than between random points, i.e., perpendicular bisectors of the lines joining the points. The former will also tend to be less complex and should produce fewer disagreements in the ultimate administration of the line.

The prior discussion has generally assumed that islands, isles, islets, and rocks have been situated upon the same area of continental shelf or seabed. Obviously, under the complexities of the physical environment, discontinuities and other aberrations will exist on the floor of the ocean. (See Figure 8-6 for an illustration.) How these variations should be treated will depend directly on the ultimate definition of the national limits on the seabed approved by the United Nations Conference in 1974. Under present parameters, the delimitation experts have to choose a loose or a strict construction for the language of the existing Convention. Naturally, each nation tends to select the construction that presents the greatest advantage to it. Since the 200-meter limit has not yet been breached, one state might declare that the deep is the absolute factor and that it should serve to limit national jurisdiction.

Bottom topography, however, is normally uneven and is quite complex. In the Norway-United Kingdom agreement in the North Sea, Norway "jumped" a sizable trench of sub-200-meter area with U.K. approval. One may argue that this "trench" really constitutes an integral part of the shelf since it is not continental slope. On the other hand, the depth is a break in the "shelf" that adheres to the Norwegian coast, although to the south the shelf arcs about the "trench" end to envelop it. To whom does it belong? The question is relevant elsewhere in the world, e.g., in the East China Sea, where a nearly identical situation prevails. Does adjacency become the principal factor in this situation, or does depth continue to prevail? Does the question demand the same answer when the trench represents the identical geologic feature differentiated only by depth?

Under present rules, depth presents the complicating factor, particularly when modified by adjacency and exploitability. A state such as Norway might better refuse to negotiate should the trench become a factor of limitation pending the technical developments to increase exploitability that are bound to occur soon. Then the depth factor will be rendered superfluous.

Should a distance or a greater depth criterion be selected by the Seabeds Committee for the future limit of national jurisdiction, the complica-

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tions will be reduced but not eliminated. Islands will still constitute major stumbling blocks in national delimitations. Nevertheless, until the new Convention is drafted, signed, and in force, the present reliance on the three factors must be considered to temper these proposed insular factors.

Even now, however, one may question the relevance of depth. The Anglo-Norwegian, Danish-Norwegian, Italo-Yugoslav and Italo-Tunisian agreements, among others, all traverse sub-200-meter seabed. Admittedly, all of these agreements occur in semienclosed seas, which offers an additional complication. Apparently, most coastal states perceive these semienclosed seas as the domain of the bordering states regardless of depth of intervening waters. Adjacency dominates depth under these conditions.

**Islands: The Seabed Beyond the Shelf**

The new convention presumably will have to face additional problems with the extension of national jurisdiction beyond the relatively limited shelf to the more expansive seabed. Insular inequities have been noted to increase with distance; as a consequence, islands will cause even greater concern to seabed delimitations unless specific language is provided. Unfortunately, the history of international conventions shows a use of the least specific language in an effort to obtain consensus. A 200-mile boundary about Clipperton or Ascension, for example, allocates to each approximately 125,000 square miles of seabed. Do they warrant such great areas with the corresponding reduction in the international zone? The uninhabitable rocks may or may not deserve one-eighth of a million square miles of seabed; however, to avoid future disputes, the negotiators must be aware of their significance and must face the issue. The effects of the scattered islands of the Trust Territory of the Pacific Islands and of French Polynesia will be astronomical.

Most of the islands that will significantly affect the seabed are situated in midocean. They will not normally complicate boundaries as currently being considered to a great degree, except among themselves. However, there are exceptions. The islands will serve to reduce the zone available for international development. The states of the world must, in concert, determine specifically how they should be treated.

**ISLANDS—NATURAL BUT ARTIFICIAL**

The Convention on the Continental Shelf, in discussing artificial islands, states in Article 5 (4):<sup>31</sup>

4. Such installations and devices, though under the jurisdiction of the coastal State, do not possess the status of islands. They have no territorial sea of their own, and their presence does not affect the delimitation of the territorial sea of the coastal State.

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The perception in the Convention obviously involved artificial installations designed for shelf exploitation. Technology and the demands of population growth will soon lead to an expansion in the number and a change in the character of these "artificial" installations—atomic power plants, artificial harbors, floating airports, and perhaps inhabited places. Most of them will remain "artificial" in the sense man builds them of iron, steel, concrete, etc. These installations could cause grave political problems that might require special legal regimes. However, when the installations are sufficiently developed to be permanently inhabited by a specific people, will a special regime suffice? I doubt it. If people living on land demand a territorial sea, people living on "artificial" land also will. The seabed factor, however, is not as apparent.

Man's ingenuity will further complicate the issue of "artificial" islands. In the Arctic, permafrost islands exist as a result of natural processes:

They are comprised of ordinary sand, gravel, clays, and silt. But the individual grains of these materials are rigidly cemented together by interstitial ice to depths of several hundred feet. This icy matrix gives the islands more than enough structural strength to resist any lateral forces that might be exerted by the thermal expansion and contraction of the recurring ice sheet.<sup>32</sup>

The Imperial Oil Company plans to duplicate these natural islands by artificial means for use as drilling platforms. If successful, once constructed, these permafrost islands will be difficult to distinguish from their natural counterparts. How shall these islands be legally viewed—artificial or natural? Are they similar to the spoil banks, which may conceivably become natural islands, or do they constitute "ice islands"? Several techniques are under consideration, and in time engineers will construct "natural artificial" islands in the Arctic.

In another part of the world, the so-called "Republic of Minerva" has proposed the construction of "islands" on otherwise submerged reefs in the South Pacific. While the government of Tonga has taken strong exception to the perceived threat of the "Minervan" operation, the concept raises questions again. The plan conceives of dredging unconsolidated materials from the lagoons and dumping them on the submerged reefs. These materials probably would have to be protected or stabilized to insure that future storms will not destroy them. The "Republic" campaigns actively to be recognized as a "state." To date, the efforts have been fruitless but the ramifications of the endeavor need to be considered. If successful, islands would exist which could, according to plan, have a permanent population. In addition, a government of sorts (the proposals are quite unique) would be present. The "government" has already issued maps of the Minervan "territorial sea." What may be a hoax, can also be a problem. If Minerva succeeds with the engineering problems, what will limit other states from attempting the same?

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Several years ago a plan was formulated to construct an "island" on the Florida reefs beyond the U.S. territorial sea. The Federal Government opposed the project, and the Courts terminated the activities. Would the results have been the same if the Federal Government had supported rather than opposed the project? Would the artificial island have become, with time and nature, a true island? It is believed that it might have. Lawyers and negotiators should address the issue either by granting rights to these islands or by more specifically defining islands so as to exclude them and other types of manmade insular phenomena.

**SUMMARY**

National efforts have been directed toward a new seabeds convention that may provide the framework for a world order within the finite space and resources of the oceans. However, in the quest for the solution to the "big" problem, little effort has been directed toward the resolution of the numerous technical problems that nations must face in the delimitation of existing national limits. Many oil companies have withdrawn from concessions because of overlapping national claims that undermine the required security of tenure. These disputes are difficult to rationalize because technical advice is limited or contradictory; and few examples exist as evidence of state practice. Many of these problems flow from islands.

Both 1958 conventions on the territorial sea and on the continental shelf recognize islands as factors for the determination of national sovereignty and jurisdiction over and under the sea. Both, moreover, acknowledge the relative influence of islands on the delimitation of the territorial sea and continental shelf boundaries between adjacent and opposite states. Yet the two conventions stress the factor of "special circumstances" which, while undefined, obviously correlates to islands in the main.

Nearly all claims to "special circumstances" in boundary negotiations in the sea regard islands as particular causes or sources of inequity. There can be no question that islands, depending on their locations and relationships, cause gross deflections in equidistant boundaries. While equidistance is not the sole basis for the delimitation of territorial sea, continental shelf, or seabed boundaries, the principle has become enshrined as a veritable "conventional wisdom" for maritime limits. It is the only method specifically mentioned in both conventions and, as a consequence, states find the concept easy to accept due to its proper "sanctification."

The solution to the issues raised by the effects of islands on equidistant boundaries and seabed allocations may be rationally determined by varying the effects of islands on the limits under specific circumstances. Developing international practice and law point out several examples of categorization of islands in their relationships to maritime boundaries. From these examples, an

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effort has been made here to classify islands further by size, relative importance, and occupation (both human and political). These empirical generalizations have been applied to the territorial sea and its boundaries as well as to the continental shelf and seabed and their limits.

Islands, except in a few specific instances, do not greatly distort territorial sea boundaries due to the narrow limits involved. They may, however, produce tortuous boundaries, difficult to administer unless modified through a process of simplification or the choice of an alternative method of boundary delimitation. Inequities become prevalent with increasing distance from the national baselines. Shelf boundaries based on islands and equidistance may prove to be unacceptable without considerable modification. Consequently, restrictions must be placed upon the use of certain small islands in order to remove or reduce their distortions and to preserve a semblance of equity.

An effort has been made here toward an objective analysis of islands as special circumstances within the limitations of the conventions on the territorial sea and the continental shelf. Certain seabed problems for which law has not yet developed have been pointed out. It is hoped that the proposals in this chapter may ultimately assist in alleviating certain vexing problems of maritime boundary delimitations.



**Annex 252(bis)**

Jeanette Greenfield, *China's Practice in the Law of the Sea* (1992)



China's Practice  
in the  
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## 2

## China's Maritime Position: Coastline, Shipping, Ports, and Rivers

### I. GEOGRAPHY AND MARITIME POLICY

China has a coastline of approximately six thousand miles and hence an extensive continental shelf. The total sea area in the China Seas is about 3.9 million square kilometres. The Bohai Gulf, the Yellow Sea, and the East China Sea are all situated to the east of the Chinese mainland, and they are sometimes collectively called the East China Seas. The South China Sea situated to the south of the mainland is the largest and deepest as well as most complicated in topography of the four seas. The Beibu Gulf (the Gulf of Tonkin) is situated to the north-west of Hainan Island in the South China Sea. China's continental shelf is considered to be one of the most extensive in the world. In the Bohai Gulf and the Yellow Sea, the continental shelf extends to the entire sea area. The continental shelf of the Bohai Gulf totals 83,000 square kilometres, and that of the Yellow Sea 404,000 square kilometres, measured out to the 200-metre isobath. In the East China Sea the shelf covers most of the sea area totalling about 1,059,000 square kilometres, and only the South China Sea has a narrower continental shelf of 728,000 square kilometres, all measured out to the 200-metre isobath.

In the last forty years China has emerged as a fishing and maritime power, and therefore has a strong interest in all matters related to the law of the sea. In the past the Chinese did not have to consider the sea or sea power as it was irrelevant to the maintenance of a great land empire, China's geographical position tending to impose a unity. In those earlier times the 'eastern sea' was a vast ocean on the other side of which there were no lands of comparable size or importance.<sup>1</sup> There are early records of Chinese trading vessels in the South China Sea going back to the fourth and fifth centuries. During the Ming Dynasty (1368–1644) the naval commander Cheng Ho made a number of major expeditions in

<sup>1</sup> C. P. Fitzgerald, 'Europe and China: An Historical Comparison', lecture delivered to Australian Humanities Research Council, Nov. 1968, (Sydney, 1969), 8–9; K. Klein, 'China's Maritime Voyages', *Monsoon* (Apr. 1978), 45–8.

South-East Asia. The Europeans began their coastal domination there in the sixteenth century.<sup>2</sup>

Interestingly, China's earliest known actual invocation of modern international law related to the law of the sea. In 1864 the principles of international law governing maritime territory were invoked by China in relation to a peace treaty between Prussia and China, as a result of which China secured Prussian surrender of Danish vessels, which had been seized in China's 'inner ocean'. This term has been said to mean territorial waters, but has also been translated as 'maritime territory' or 'ocean area within the jurisdiction of a nation'. In the course of invoking the principle of maritime territory it was stated that the various inner oceans under China's jurisdiction had usually been specifically provided for in all her peace treaties with foreign nations.<sup>3</sup>

After 1949, the People's Republic of China did much towards the formulation of a maritime policy. But it was only after entry into the United Nations in 1971,<sup>4</sup> and participation in the United Nations' Seabed Committee 1971-2<sup>5</sup> that more comprehensive expressions of policy emerged. The only official and specific sea claim by China remains that of the 1958 Declaration concerning the width of territorial waters. However, her position concerning all other issues has emerged, particularly through her participation in the UN Law of the Sea Conference 1973-8 and 1980-2.<sup>6</sup> By the time that the new Law of the Sea Convention was

<sup>2</sup> Leng Lee Yong, *South East Asia and Law of the Sea* (Singapore, 1980), 4.

<sup>3</sup> I. C. Y. Hsu, *China's Entrance into the Family of Nations* (Cambridge, Mass., 1960), 133.

<sup>4</sup> The General Assembly on 25 Oct. 1971, decided to restore all its rights to the People's Republic of China and to recognize the representatives of its government as the only legitimate representatives of China to the United Nations; Resolution 2758 (XXVI), *UN Monthly Chronicle*, 8, No. 10, (Nov. 1971), 34-61; Text of Resolution, p. 61, also *ILM*, 11, (1972), 561.

<sup>5</sup> Full name: United Nations Committee on Peaceful Uses of the Seabed and Ocean Floor Beyond the Limits of National Jurisdiction.

<sup>6</sup> Chinese representatives whose names reappear with frequency as spokesmen at the UN Seabed Committee meetings and subsequently at the Third International Conference on the Law of the Sea: Mr Shen Weiliang, Deputy Director, Dept. of International Organizations, Law and Treaties, of the Foreign Ministry. Mr Chen Chihfang, Ambassador to Switzerland. Mr Chuang Yen, Ambassador Extraordinary and Plenipotentiary, Deputy Permanent Representative to the UN (A/AC 138/INF 8 (1973), 3). Adviser Ni Zhengyu (A/CONF 62/INF 4 (Apr. 1975), 11, (author of the monograph, *The Question of Jurisdiction in International Law* (Peking, 1964) referred to in sections of this work, and currently judge of the ICJ), Legal Expert, Department of International Organizations, Law and Treaties, of the Foreign Ministry. Mr Chai Shufan (Leader of the delegation, Caracas), Vice-Minister of Foreign Trade. Mr Ling Ching, Deputy Director of the Dept of International Organizations, Law and Treaties, of the Foreign Ministry (A/CONF 62/INF 3/REV. 2 (16 Jan. 1975), 12). Mrs Ho Liliang, Counsellor, Permanent Mission to the UN (A/CONF 62/IBF 1 (10 Dec. 1973), 6). Mr Pi Chilung (Leader of the Delegation, Geneva), Director of the Department of International Organizations, Law and Treaties, of the Foreign Ministry. Mr Lo Juy, Deputy Director of the National Bureau of Oceanology. Mr Ke Tsaishuo, Official, Department of International Organizations, Law and Treaties, of the Foreign Ministry (A/CONF

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concluded her policies on such matters as innocent passage, international straits, continental shelf, exclusive economic zones, and seabed mining had been made clear.

As early as 1952, the Chinese had translated the Second revised edition of the classic work by Higgins and Colombos, *The International Law of the Sea*.<sup>7</sup> In addition, a number of articles appeared from time to time in journals concerning issues relating to China's interests in the sea,<sup>8</sup> but there was apparently no general treatise on the subject. China lacked that long tradition of free international intercourse in all spheres, including the maritime, which might have stimulated such a study. Instead, as she emerged from isolation, China dealt in a pragmatic way with maritime matters as these arose in relation to concrete questions. Matters of national security, the status of offshore islands, their effect in generating territorial sea, and the potential exploration of offshore resources in relation to those islands and continental shelf have heightened China's concern for the law of the sea, and been the subject of her most direct and immediate attention.

Islands in particular, have been of great importance in China's more recent international practice. It was the conflict which centred around the offshore islands of Quemoy and Matsu, which precipitated the 1958 Declaration Concerning China's Territorial Sea.<sup>9</sup> In it, the government of the People's Republic of China declared a twelve mile territorial sea, some considerable time before this became a general practice; it also emphasized the straight baseline method, although China was not and never became a party to the 1958 Geneva Conventions on Territorial Sea and Continental Shelf. The Declaration also reaffirmed China's sovereignty over certain islands including the Taiwan and the Penghu areas. The issue of Taiwan remains unresolved, and in the East China and Yellow Sea there are conflicting claims between China and Japan

62/INF 4 (Apr. 1975), 11). Mr An Chihyuan, Ambassador Extraordinary Plenipotentiary, Permanent Representative to the Office of the United Nations at Geneva (A/CONF 62/INF 8 (Apr. 1978), 10); legal adviser, Wang Tiewa, Professor of International Law, Beijing University (A/CONF 62/INF 10 (17 Apr. 1979)). Yu Peiwen, Ambassador, permanent representative to the office of the UN (Chairman of the delegation), Shen Weiliang, Deputy Director, Department of International Law and Treaties, Ministry of Foreign Affairs (Vice-Chairman of the delegation), Legal advisers: Ni Zhengyu, legal adviser, Ministry of Foreign Affairs, Zhang Hongzhen, legal adviser, Department of International Law and Treaties, Ministry of Foreign Affairs (A/CONF 62/INF 15/Add 1 (27 Aug. 1981)).

<sup>7</sup> Alexander P. Higgins, 2nd rev. edn. by C. John Colombos, *The International Law of the Sea (Hai Shang Kuo Chi Fa)*, trans. Wang Ch'iangsheng (Peking, 1957) (translation, however, not of the English, but of the Russian version by Judge Serge Krylov of the ICJ; see note, Preface of 6th edn. of above, p. v).

<sup>8</sup> See Bibliography; In the 1980s see especially the *Chinese Yearbook of International Law*. The names of the Chinese journals are also indicated in the List of Abbreviations.

<sup>9</sup> Cheng Tao, *AJIL* 63 (1969), 52; *SCMP* No. 1851 (1958), 14; *NCNA* (6, 7 Sept. 1958); *ARWE* 200 (1958), 354.

over the Diaoyutai islands (referred to by the Japanese as Senkaku islands being part of their Ryukyu islands). In the South China Sea, disputes exist between China and Vietnam and also with Taiwan, over the Paracel islands (known by the Chinese name of Hsisha); and between China, and Vietnam, Taiwan, and the Philippines over the Spratly islands (known by the Chinese name of Nansha); China also claims the Scarborough Reef (Huangyan), the Macclesfield Bank (Chungsha), and the Pratas Reef (Tungsha), the latter of which is claimed by Taiwan. There is also no agreement as to the delimitation of the continental shelf boundary between China and Japan and China and Korea. In addition issues relating to delimitation of the territorial sea, economic zones, fisheries rights, and the juridical character of straits, have all seriously challenged old established concepts concerning innocent passage, and freedom of the seas.

## 2. DEVELOPMENT AS A SHIPPING POWER

By 1984 the People's Republic of China had become one of the world's foremost seafaring countries (see Map 1(a)). Her merchant marine was estimated to be at least the fourteenth largest in the world in terms of tonnage. In terms of numbers of vessels, China ranked eighth, directly behind the United States. Her position may be even higher in terms of true ownership. In addition to her ownership of a large number of foreign vessels, the CPR is heavily involved in the ship charter market, though this involvement is decreasing. In the 1970s, up to two-thirds of China's foreign trade was carried on chartered ships, China being 'the single largest market for Greek-owned dry cargo ships' and the leading charterer on the London market. There are more than eighty sea transport enterprises in China. Most of them are small with just one or two vessels, funded or jointly operated with local governments, and engaged mostly in offshore transport. The China Ocean Shipping Company (COSCO) is the biggest ocean shipping enterprise and its dead weight tonnage accounts for 75 per cent of China's total.<sup>10</sup> Currently, more than half of China's foreign trade is carried by Chinese vessels, but the tonnage under charter continues to be significant. It has the biggest navy in the world, consisting of at least 1,235 vessels, and the third largest submarine fleet with a number estimated between 65 to 103 (see Map 1(b)). In total, more than 2,000

<sup>10</sup> Eckart Broedermann, *Journal of Maritime Law and Commerce*, 15, No. 3 (July 1984), 419, 423; 'China's Ocean-Going Fleets'; *PR* 15 (11-17 Apr. 1988), 22-4; China's ocean-going fleet's deadweight tonnage (DWT) is now 17 million, ninth of all countries in the world. In terms of the number of vessels, China has been placed sixth. In 1987, China's shipping-freight volume was 65 million tons.

## 5

## Contiguous Zone, Fishing and Exclusive Economic Zone, and the High Seas

### 1. THE DEVELOPMENT OF THE EXCLUSIVE ECONOMIC ZONE

The Contiguous Zone was described in the 1958 Geneva Convention on the Territorial Sea and Contiguous Zone (Article 24), as a zone of the high seas contiguous to its territorial sea. In that zone the coastal state could exercise control necessary to prevent infringement of its customs, fiscal, immigration, or sanitary regulations within its territory or territorial sea, and to punish infringement of those regulations. The Informal Composite Negotiating Text, New York, 1977, Article 33 made an identical provision, except that the limit of the contiguous zone from the baseline from which the breadth of the territorial sea is measured is extended to 24 nautical miles instead of the 12 miles laid down in the 1958 Geneva Convention.<sup>1</sup> The negotiating texts were adopted in the 1982 Law of the Sea Convention Article 33, thus establishing a contiguous zone of 24 miles.

The People's Republic of China has adopted the principle of contiguous zones for the enforcement of customs and other regulations. The then Republic of China had a twelve mile customs zone in 1934.<sup>2</sup> The 1952 CPR Regulations concerning Japanese Vessels Destined for China stipulated that

2. The ports of entry for a Japanese vessel navigating in Chinese waters are Shanghai and Taku. Within the sea area fifteen nautical miles from the Chinese coast, no hovering is permitted. Moreover, it may not enter any port other than the one it was scheduled to enter.

3. A Japanese vessel destined for China shall observe all Chinese maritime regulations upon entering the territorial sea 15 nautical miles from the Chinese coast. It shall not hoist any signs. But it must inform by telegram, through its agent at the port destination, the port authorities of its present location at sea in degrees of latitude and longitude. The contact shall be made with international signals for maritime use. In case there is any suspicion on the part of the Chinese

<sup>1</sup> A/CONF 62/WP 10/Add 1, Part II (22 July 1977).

<sup>2</sup> V. G. Amador, *The Exploitation and Conservation of the Resources of the Sea*, (Leyden, 1959), 32.

patrol boat against a Japanese vessel, the latter must obey the order and submit to visit and search by the former'.<sup>3</sup>

The Chinese Declaration on the twelve miles territorial sea was also made in 1958, and while the above implies a contiguous zone of twelve miles in addition to what was then generally recognized as three miles of territorial sea, the extent of contiguous zone around China is at present uncertain (see Appendix 13, Table 1). It would appear to go beyond the twelve miles from the baseline of the territorial sea, provided for by the Geneva Convention Article 24. That the contiguous zone shares the same baseline with the territorial sea was confirmed in Article 24<sup>2</sup>. Its breadth is limited at twelve miles from the coastline from which the territorial sea is measured. Under the Geneva Convention a state claiming more than twelve miles territorial sea could not have a contiguous zone as such beyond that area. It includes and is not additional to the territorial sea so measured.<sup>4</sup>

Provision is made in the 1958 Geneva Convention for a contiguous zone of twelve miles and in the 1982 Convention for a zone of twenty-four miles for the purposes of punishment for, and prevention of, infringement of customs, fiscal, immigration, or sanitary regulations within the coastal states territory or territorial sea. Zones for security and fishing control, although not incorporated into the final Geneva Convention, were discussed at length.<sup>5</sup>

However, China has supported claims for the establishment of extensive zones for other purposes such as security and the protection of coastal fishery resources and national economic interests.<sup>6</sup> She has emphasized the importance of the regulation of marine pollution by the coastal states themselves.<sup>7</sup>

By the language of Article 24 in the Geneva Convention on the Territorial Sea and Contiguous Zone, the contiguous zone is an area of 'control' over high seas, contiguous to a state's territorial sea, which may be exercised for special purposes. By comparing this provision with that of Article 1 dealing with coastal state's sovereignty extending to territorial

<sup>3</sup> Cheng Tao, *AJIL* (1969), 67.

<sup>4</sup> G. Fitzmaurice, *ICLQ* 8 (1959), 112.

<sup>5</sup> *Michigan Law Review*, 62 (1964), 854. Comments: 'Maritime Contiguous Zones'.

<sup>6</sup> Chuang Yen, 6 Apr. UN Seabed Committee. *NCNA* (12 Apr. 1973), 11; Lung Sheng-tao, *ICLQ* 19 (1970), 619-21. Security zone designated in 1955 Japanese-Chinese agreement. D. M. Johnston, *The International Law of Fisheries* (New Haven, Conn., 1965), 217; S. Oda, *International Control of Sea Resources* (Leyden, 1989); Gen. Ass. Res. 18 Dec. 1972, supported by CPR Res. 3016 (XXVIII), A/C, 22 (1972) (102 for, 22 abstained) dealt with the right of states to permanent sovereignty over all natural resources on land, seabed, superjacent waters within national jurisdiction.

<sup>7</sup> Chen Chihfang, A/AC 138/SC III/SR 25, p. 67, also 2 Aug. 1972, Subcommittee II, *PR* 34 (25 Aug. 1972), 12.

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sea, and with Article 1 on the Geneva Convention on the High Seas which refers to all seas not included in the territorial sea or internal waters, it appears that the coastal state's right in this zone does not amount to sovereignty.<sup>8</sup>

All this does not amount to a particular legal concept.<sup>9</sup> The words of Article 24<sup>1</sup> 'in a zone of the high seas contiguous to its territorial sea' indicates the contiguous zone is not just separated from the territorial sea, but is part of the high seas and its basic juridical status is that of the high seas. A suggested distinction between the territorial sea and the contiguous zone was that in the former the state exercises jurisdiction conferred by its national law, whereas in the latter the state exercises only limited policing rights derived from international law.<sup>10</sup>

The status of the contiguous zone under Article 24 of the Territorial Sea Convention as a zone of the high seas<sup>11</sup> had serious implications. The contiguous zone concept conceded, in principle, the exercise by the coastal state of an extraterritorial jurisdiction on the high seas.<sup>12</sup> But the rights which came to be asserted went clearly beyond any established contiguous zone concept, since those rights were non-exclusive, non-proprietary rights, only for control and policing. It has therefore been stated that exclusive fisheries rights in the high seas cannot derive from or constitute any general international law principle.<sup>13</sup>

However, the 1982 Law of the Sea Convention has altered the status of the contiguous zone. Where an exclusive economic zone is declared, the contiguous zone falls within it and not the high seas, because the exclusive economic zone commences beyond and is adjacent to the territorial sea (Article 55). Article 33 of the 1982 Convention establishing the contiguous zone follows the wording of Article 24 of the Geneva Convention, but importantly omits any reference to 'a zone of the high seas'. Because of the establishment of the exclusive economic zone under the 1982 Convention, any presumption against the coastal state jurisdiction is removed and control in the contiguous zone has even been extended to cover historical and archaeological objects (Article 303(2)). This development appears to move closer to the Chinese position which has been to overlap the coastal states' jurisdiction.

There was no agreement on fishing zones at the Geneva Conference and exclusive fishing rights in a contiguous zone were not recognized. At the 1960 Geneva Conference, the United Kingdom and the United States

<sup>8</sup> I. Brownlie, *Principles of Public International Law* (Oxford, 1990), 201.

<sup>9</sup> D. P. O'Connell, *International Law*, (London, 1970), i. 645.

<sup>10</sup> Fitzmaurice, n. 4 above, pp. 111, 112.

<sup>11</sup> *Ibid.* 111.

<sup>12</sup> R. Y. Jennings, *CLJ* (1972), 36.

<sup>13</sup> Fitzmaurice, n. 4 above, pp. 119, 120.

suggested a six-mile territorial sea and a six-mile contiguous zone with exclusive fishing rights, but this also failed to gain a majority.<sup>14</sup> Nevertheless while many jurists previously denied the legality of such zones, many states claim them, and a large number established fishing zones beyond the territorial sea.

The Chinese lack of concern for terminology and their pragmatic approach are most apparent in this area. This can be discerned from representative Chuang Yen's statement in 1973 at the United Nations Seabed Subcommittee as follows:

Owing to the fact that the breadth of the territorial sea varies with different countries, we consider that it is in the exercise of the sovereignty of a State to reasonably define in accordance with their specific conditions and the need for the development of their national economies, the scope of their jurisdiction over economic resources beyond their territorial seas using the names of exclusive economic zone, continental shelf, patrimonial sea, or fishing zone etc. Neighbouring countries situated in a common sea should equitably allot their limits of jurisdiction through consultation on the basis of equality and mutual respect'.<sup>15</sup>

This seems to be expressed in terms familiar to the criterion referred to in delimiting the territorial sea itself, and the overlap of concepts including continental shelf, apparently causes no difficulty to the Chinese. China has opted for a large and consolidated exclusive right over sea areas for the coastal states. Clearly preferential rights alone would be considered inadequate.<sup>16</sup> The Chinese approach on this matter sharply contrasted with the 1982 Law of the Sea Convention Article 61, which provided '1. The coastal State shall determine the allowable catch of the living resources in its exclusive economic zone,' and Article 62 which provided:

1. The coastal State shall promote the objective of optimum utilization of the living resources in the exclusive economic zone without prejudice to Article 61.
2. The coastal State shall determine its capacity to harvest the living resources of the exclusive economic zone. Where the coastal State does not have the capacity to harvest the entire allowable catch, it shall, through agreements or other arrangements and pursuant to the terms, conditions, laws and regulations referred in paragraph 4, give other States access to the surplus of the allowable catch . . .

At the Third UN Conference on the Law of the Sea China stated that restrictions (such as non-interference in scientific research or vessel based

<sup>14</sup> J. L. Brierly, *Law of Nations* (London, 1963, rev. Sir Humphrey Waldock), 16.

<sup>15</sup> Chuang Yen, 20 Mar. 1972; Seabed Committee, *PR* 13 (30 Mar. 1973), 9; *NCNA* (29 Mar. 1973), 10; Chuang Yen at Subcommittee II, 5 Apr. 1973, *PR* 15 (13 Apr. 1973), 15; also reference to 'patrimonial seas' and 'economic zones', *NCNA* (2 Oct. 1972); definition of 'Economic Zone', D. M. Johnston and E. Gold, *Rhode Island Occasional Paper* No. 17 (June 1973), 1.

<sup>16</sup> *PR* 33 (16 Aug. 1974), 7. Ling Ching, 7 Aug., in debate, 2nd Committee, refuted preferential rights; *NCNA* (30 Aug. 1973), 10; see also later section on Fisheries.

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pollution) on coastal state sovereignty over the resources of the economic zone, or on coastal state jurisdiction, would be to deny the 'exclusive' nature of the exclusive economic zone.<sup>17</sup> The 1982 Law of the Sea Convention Article 56 provides that in the exclusive economic zone, the coastal state has:

- (a) Sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources whether living or non living of the waters superjacent to the sea-bed and of the sea-bed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zones, such as the production of energy from the water, currents and winds;
- (b) Jurisdiction as provided for in the relevant provisions of the present Convention with regard to: (i) the establishment and use of artificial islands, installations and structures; (ii) marine scientific research; (iii) the protection and preservation of the marine environment.

and Article 246 provides:

3. Coastal States shall, in normal circumstances, grant their consent for marine scientific research projects by other States or competent international organizations in their exclusive economic zone or on their continental shelf to be carried out in accordance with this Convention exclusively for peaceful purposes and in order to increase scientific knowledge of the marine environment for the benefit of all mankind. To this end, coastal States shall establish rules and procedures ensuring that such consent will not be delayed or denied unreasonably.

However, under Clause 5, coastal states may in their discretion withhold their consent under certain conditions.

The theoretical argument that the economic zone should be regarded as part of the high seas, thereby denying complete coastal state jurisdiction, is repudiated by China. It is argued that 'if the economic zone were truly part of the high seas, then it would make no sense talking about the establishment of such a zone'.<sup>18</sup>

In the explanation following submission of China's 1973 Working Paper on the Sea Area Within the Limits of National Jurisdiction (Appendix 2), an attempt to distinguish the two concepts of exclusive economic zone and territorial sea was made. Thus, while

the territorial sea and the exclusive economic zone are both under the jurisdiction of a coastal State, the two are distinct in legal status. Territorial sea is a part of the territory of a coastal State over which it exercises complete sovereignty. In the case of an exclusive economic zone, the coastal State mainly enjoys ownership of

<sup>17</sup> Ling Ching, Third UN Conference on Law of the Sea, 6 Aug. 1974, *NCNA* (15 Aug. 1974), 13, 17; *PR* 33 (16 Aug. 1974), 5-6.

<sup>18</sup> Ling Ching, *ibid.*

the economic resources therein, including living resources and sea bed natural resources.<sup>19</sup>

In the event Articles 55 and 56 of the 1982 Law of the Sea Convention makes it clear that the exclusive economic zone does not retain the status of high seas. The coastal state has sovereign rights over the superjacent waters and the seabed for the purpose of exploring and exploiting, conserving and managing the natural resources. Article 86 expressly excludes the exclusive economic zone from the provisions relating to the high seas. On the other hand the exclusive economic zone appears not to have a residual territorial sea character either, but to be a separate functional zone falling between the two. This development appears to have moved partly in line with the Chinese position on the exclusive economic zone.

That the resources of the exclusive economic zone include living and non-living resources in the waters and seabed of the exclusive economic zone emerged at the Third UN Conference on the Law of the Sea where the Chinese representative referred to sovereignty over the renewable and non-renewable resources in its economic zone. This was linked with the declaration by developing countries, of permanent sovereignty over natural resources over their own offshore resources, which provided for 'the right of States to permanent sovereignty over all their natural resources on land within their international boundaries as well as those found in the seabed and subsoil thereof within their national jurisdiction and in the superjacent waters'.<sup>20</sup> Therefore according to this special feature of the exclusive economic zone it is necessary for the coastal state to exercise exclusive jurisdiction over the area.<sup>21</sup> In the course of the Third UN Conference on the Law of the Sea at Geneva in 1978, China continued to participate on the issue of rights to be exercised within the zone, through participation as a representative of the Asian group, in the Negotiating Group on item 5, namely 'The question of the settlement of disputes relating to the exercise of the sovereign rights of the coastal States in the exclusive economic zone'.<sup>22</sup> The nature of this exclusive jurisdiction has been expounded by China as 'the right of the coastal State to protect, use, explore and exploit all the natural resources in the zone, to adopt necessary measures and regulations to prevent these resources from being plundered, encroached on, damaged or polluted, and

<sup>19</sup> A/AC 138/SC II/SR 55 (1973), at p. 85; also Chinese Mission to UN Press Release, New York, 20 Mar., Chuang Yen, at p. 6.

<sup>20</sup> NCNA (15 Aug. 1974), 13; Ling Ching, Caracas Third UN Conference on Law of the Sea, 6 Aug. 1974. UN Gen. Ass. Res. 3016 XXVII, 18 Dec. 1972, Resolution of Permanent Sovereignty over Natural Resources of Developing Countries; 102 votes for, nil against, 22 abstentions; China voting in favour.

<sup>21</sup> Ling Ching, n. 16 above.

<sup>22</sup> A/CONF 62/63, 18 Apr. 1978.

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to exercise overall control and regulation of the marine environment and scientific research within the zone'.<sup>23</sup>

The criterion for the delimitation of the economic zone is provided for in the special section of the Chinese Working Paper under the alternative heading of 'Exclusive Economic Zone or Exclusive Fishery Zone' (Appendix 2). Its terminology was reminiscent of that used for the determination of the breadth of territorial sea. Thus, 'A State may reasonably define an exclusive economic zone beyond and adjacent to its territorial sea in accordance with its geographical and geological conditions, the state of its natural resources and its needs of national economic development'.<sup>24</sup> A maximum outer limit of two hundred nautical miles was provided for. Article 2 of the Working Paper provided: the outer limit of the economic zone may not, in maximum, exceed 200 nautical miles measured from the baseline of the territorial sea; the 1982 Law of the Sea Convention Article 57 similarly provides: 'The exclusive economic zone shall not extend beyond 200 nautical miles from the baseline from which the territorial sea is measured.' On examining the many Chinese statements it would be erroneous to conclude, as one writer has done,<sup>25</sup> that while supporting a maximum limit for the territorial sea China does not envisage a maximum limit on the fisheries zone.

The apparent distinction between the economic zone and the fisheries zone is that in the former are included 'all natural resources, including living and non-living resources of the whole water column, sea bed and subsoil',<sup>26</sup> while resources in the exclusive fishery zone 'are confined to the living resources of the water column in the said fishery zone'.<sup>27</sup> On these terms states desiring a broader national jurisdiction would naturally opt for the establishment of the former zone, and either concept goes far beyond what was ever originally conceived within the notion of the contiguous zone.

Article 56 of the 1982 Law of the Sea Convention gives the coastal state sovereignty over living and non-living resources in the exclusive economic zone. The coastal state also has jurisdiction over the construction of unofficial islands and installations, marine scientific research, and pollution control. It also has other rights, which principally are concurrent with those of the contiguous zone (Article 33) and the right of hot pursuit (Article 111). Of the freedoms of the high seas, three have been maintained. These are navigation and overflight and the laying of submarine

<sup>23</sup> Ling Ching, *PR* 33 (16 Aug. 1974), 6; *UN Official Records ii: Summary Records of Meetings Third U.N. Conference, Law of the Sea* (Caracas, 1974), 187.

<sup>24</sup> Section 2, Art. 1. A/AC 138/SC II/L 34 (1973), 2.

<sup>25</sup> M. T. Kamminga, *China Quarterly*, 59 (July/Sept. 1974), 551.

<sup>26</sup> Art. 2, CPR Working Paper.

<sup>27</sup> Art. 9, CPR Working Paper.

cables and pipelines (Article 58), although in the light of the other parts of the convention these may possibly be more qualified than such corresponding rights in the high seas. This result also seems to be very close to the long-held Chinese position regarding the coastal states' authority over the exclusive economic zone although it may not be sufficiently 'exclusive'.

China has stated that normal navigation and overflight would be unaffected, although any other activities in such zone would require consent through concluded agreements. 'Normal' navigation has not been defined in detail, and no reference made as to whether this simply means innocent passage as defined by China within the territorial sea. According to the writer Shao Jin, passage in the zone is subject to the coastal states' sovereign rights, and for instance military use of the zone would not be maintainable in terms of the traditional freedom of the high seas.<sup>28</sup> In partial recognition of what would hitherto have been regarded as ex-orbitant claims, some mitigation was made by way of provision for landlocked states.

The coastal State should in principle grant to its neighbouring landlocked State common enjoyment in certain proportion of the rights of ownership and jurisdiction in its economic zone, and as to concrete practice, a reasonable solution should be sought through consultations by countries concerned.<sup>29</sup>

Some provision for the landlocked states, along the lines envisaged by China, was made in the 1982 Law of the Sea Convention, Article 69, which provides:

1. Landlocked States shall have the right to participate on an equitable basis, in the exploitation of an appropriate part of the surplus of the living resources of the exclusive economic zones of coastal States of the same sub-region or region, taking into account the relevant economic and geographical circumstances of all the States concerned . . .
2. The terms and modalities of such participation shall be established by the States concerned through bilateral, subregional or regional agreements . . .
4. Developed landlocked States shall, . . . be entitled to participate in the exploitation of living resources only in the exclusive economic zones of developed coastal States of the same sub-region or region . . . having regard to . . . detrimental effects on fishing communities.

China continued to participate on the issue of the rights of landlocked States, during the course of the Third UN Conference on Law of the Sea, Geneva, 1978. Thus she was a representative as a neutral country in the

<sup>28</sup> *Ch. YIL* (1985), 199.

<sup>29</sup> Chuang Yen, n. 15 above, 1973; Chinese Mission to UN Press Release, New York, 20 Mar. 1973, p. 7; also Working Paper on Sea Area Within the Limits of National Jurisdiction, A/AC 138/SC II/L 34, p. 2, Arts. 3, 4.

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Negotiating Group on item 4, namely 'Right of access of landlocked States and certain developing coastal States in a subregion or region to the living resources of the exclusive economic zone . . . Right of access of landlocked and geographically disadvantaged States to the living resources of the economic zone'.<sup>30</sup>

China's views undoubtedly emanated from the issues arising from Latin American claims of 200 nautical miles territorial sea, for which China on numerous occasions expressed support.<sup>31</sup> She has frequently pointed to the increased general practice of other states in establishing protective exclusive fishery zones. To cite only a few, Iceland on 1 September 1972 extended her fishing zone to 50 miles (further extended after 13 November 1973 to two hundred miles); Pakistan on 21 March 1973 extended her fishing limits up to 50 miles; the government of the Soviet Union by a decision taken on 21 March 1956 to 'protect salmon and trout resources in the Far East and regulate their catch', unilaterally extended its exclusive control over a distance exceeding 400 nautical miles from its coast.<sup>32</sup> After 1963, Canada, Great Britain, New Zealand, and the United States had established twelve-mile exclusive fishing zones along their coast, which were really modest claims. Now over one hundred countries claim 200-mile economic or fishery zones. Whilst the fishery zone was partly made redundant by the establishment of exclusive economic zones, eighteen states maintain 200-mile fishery zones. Many states prefer to claim a fishing zone rather than an exclusive economic zone.<sup>33</sup> The real concern for economic and fishery zones stemmed from the deprivation of some states of the benefit of a geological continental shelf. While China supports the exclusive economic zone concept and supported in terms of distance what was to become an irreversible trend she has not as yet made any formal extensive claims to one herself.<sup>34</sup> According to the writer Zhou Zhonghai, the development of this concept was the most important outcome of the Third Conference on the Law of the Sea.<sup>35</sup>

## 2. FISHERY CONSERVATION AND THE FREEDOM OF SEAS

The extent of China's fishing grounds and her participation in world fishing is great. Five hundred million people live along its coasts. The

<sup>30</sup> A/CONF 62/63, 18 Apr. 1978.

<sup>31</sup> An Chihyuan, A/AC 138/SR 72 (1972), 17, 21; Huang Hua, 19 Mar. 1973, *NCNA* (22 Mar. 1973), 25; *PR* 48 (27 Nov. 1970), 7; *People's Daily* editorial 20 Nov. 1970), 9.

<sup>32</sup> Chuang Yen, 20 Mar. 1973, Subcommittee II; *PR* 13 (30 Mar. 1973), 10.

<sup>33</sup> Cheng Tao, n. 3 above, p. 56; Brownlie, *Principles of Public International Law*, 208.

<sup>34</sup> E. D. Brown, in *New Directions in Law of the Sea*, iii. (New York, 1973), 178. See *Limits in the Seas*, No. 36, National Claims to Maritime Jurisdictions, Office of the Geographer, US Dept of State, rev. edn. Apr. 1977, and list as of 14 Mar. 1978.

<sup>35</sup> *International Law of the Sea* (Peking, 1987), 12.

total area of coastal offshore fishing grounds to the depth of two hundred metres along the coasts of China is larger than that of any other country. 1988 FAO statistics indicate that China is the third largest fishing nation after Japan and Russia. These major fishing states in the world, together with Peru take approximately half of the total world catch.<sup>36</sup> Her regional position as a fishing nation in East Asia is particularly strong as it is estimated that China takes twice as much fish in the Yellow Sea and East China Sea as Japan, North and South Korea, the Ryukyus, and Taiwan put together. This is so in spite of the fact that China has no advanced fishing fleet, and all its fishing is based on internal and coastal fishing. Her fishing fleet has a low ratio of mechanization, and there are no long-distance or even medium-range trawlers.<sup>37</sup> High production is therefore attributed to intensive breeding and conservation of fish resources.

The Chinese have in the past unilaterally declared certain prohibited zones, which the Japanese have accepted in areas where they previously fished. This occurred in non-governmental agreements between the China Fishery Association and the Japan China Fishery Council (1955, 1963, and 1965) (see Map 4(a)). The United States Presidential Proclamation of 28 September 1945 (The Truman Proclamation), claiming a right to establish fishery conservation zones in the areas of the high seas contiguous to its coast, has been cited as a precedent justifying a number of China's measures. However, unilateral conservation measures were limited in that proclamation to areas in which fishing activities were maintained by its own nationals only. Where fishing activities had been developed by US and other nationals, explicitly bounded conservation zones were to be established by agreement. Other precedents have been suggested which would have been more appropriate.<sup>38</sup> These were the British and US establishment of twelve-mile<sup>39</sup> fishery limits which went beyond their territorial limit. They were also still within the twelve-mile contiguous zone then laid down in the Geneva Convention on Territorial Sea and Contiguous Zone, although that Convention did not include fishing as one of the incidents of the contiguous zone. State practice had

<sup>36</sup> See K. Hjertson, *The New Law of the Sea* (Leyden, 1973), 101; Choon Ho Park, *Rhode Island Occasional Paper*, No. 18 (Sept. 1973), 24, 25.

<sup>37</sup> Kamminga, n. 25 above, p. 550; *UN Stat. Y/B* (1972), 150, 426.

<sup>38</sup> Cheng Tao, n. 3 above, p. 66.

<sup>39</sup> UK Fishery Limits Act 1964 fixes these limits at twelve miles at a number of points around the British Isles, but the territorial sea remains limited to three miles. Note: Icelandic Regs., 1 July 1972 extended coastal state fisheries jurisdiction to 50 miles from baseline. See *Fisheries Jurisdiction Case, UK v. Iceland* (1974) ICJ Rep. 3, Sir H. Waldock, p. 119; although he considered the extension beyond the 12-mile limit agreed to in 1961, would not be *opposable* to the UK under general international law, as well as the Exchange of Notes, he hesitated in upholding the proposition that the extension to 50 miles was without foundation in international law and invalid.

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also apparently modified the Geneva Convention on the High Seas to this extent.<sup>40</sup>

China's measures went beyond such claims. The Chinese have described high seas in the following terms: 'Except for those internal seas and territorial seas which belong to the various coastal States, all oceans on the earth are regarded as high seas. The high seas are not subject to the sovereign jurisdiction of any State.'<sup>41</sup> It has further been acknowledged that 'on the high seas, ships and nationals of all States are free to navigate, to fish, to hunt, and to engage in other maritime enterprises as well as to lay submarine cables'.<sup>42</sup> Nevertheless after 1950 she established a conservation zone from the Sino-Korean border<sup>43</sup> to Chekiang province, extending beyond the claimed twelve-mile territorial sea, and from which both foreign and Chinese trawlers are excluded. In addition, China also sought to regulate fisheries by an earlier international agreement in 1957 with North Vietnam and with North Korea.<sup>44</sup> In 1956 China had joined these two countries, together with the USSR, in a Western Pacific Fisheries Commission, to co-ordinate oceanographic and marine research, and to elaborate conservation measures.<sup>45</sup> Its main purpose was to put to national use the resources of fisheries and other aquatic animals and it covered the Sea of Japan, Yellow Sea, and East and South China Seas.<sup>46</sup> However, China withdrew from this Agreement in 1958. In 1955, the China Japan Fishery Agreement (non-governmental) was made, but was not renewed in 1958 after infringements by Japanese vessels.<sup>47</sup> A new agreement was concluded in 1963 and a third in 1965, which was a revised version of the first two.

These fishery agreements were made between the China Fishery Association and the Japan–China Fishery Council of Japan. While the Japanese Foreign Office did not accord official status to these agreements, the People's Republic of China, included them in its treaty series thus, it has been suggested, imbuing them with a treaty-like character. Article 4 of the Convention on Fishing and Conservation of the Living Resources of the

<sup>40</sup> J. E. S. Fawcett, *The Law of Nations* (London, 1968), 17.

<sup>41</sup> J. A. Cohen and H. Chiu, *People's China and International Law* (Princeton, NJ, 1974), 492.

<sup>42</sup> *Cheng Tao*, n. 3 above, p. 64, from *Hsinhua Pan Yuh Kan*, 140, p. 58.

<sup>43</sup> *Cheng Tao*, n. 3 above, 65; Wei Wan Han, *FH* (3 June 1957), 360.

<sup>44</sup> See *SCMP* 1519 (30 Apr. 1957); *SCMP* 2088 (2 Sept. 1959); Park, *Rhode Island Occasional Paper* No. 18, p. 21.

<sup>45</sup> W. E. Butler, *Soviet Union and Law of the Sea* (Baltimore, 1971), 191; *PR* 16 (17 June 1958), 9. *PR* 36 (4 Nov. 1958), 22. The Convention signed was A Convention for Co-operation in the Execution of Fisheries, Oceanological, and Limnological Research in the Western Pacific.

<sup>46</sup> *SCMP* 1310 (June 1956), 20; Park, *Rhode Island Occasional Paper*, No. 18, p. 21.

<sup>47</sup> D. M. Johnston, *International Law of Fisheries*, 217; Z. Ohira and T. Kawahara, *JAIL* (1959), 109; S. Oda, *JAIL* (1960), 62, Lung Shengtao, n. 6 above, pp. 619–21.

High Seas provided for negotiation between nationals of two or more states engaged in fishing the same fish or other living marine resources in any area or areas of the high seas. The People's Republic of China had not been recognized by Japan; it was not a party to the Convention and the Convention itself did not achieve the same general acceptance of the others. There was therefore no obligation on the part of China to conclude such fishery agreement with Japan, but an internationally acceptable mode of settlement was pursued.<sup>48</sup> Subsequently, in August 1975, China and Japan concluded a Formal Fisheries Agreement which came into force in December 1975. This Agreement concluded between the two governments was to remain in force for three years.

The 1955 non-governmental Agreement<sup>49</sup> contained a number of provisions which particularly dealt with safety and mutual acceptance. It was provided that: in the interest of safety and orderliness at sea, in addition to international custom on navigation, vessels of both parties must observe specified rules concerning identification, signalling, anchoring, netting, and the keeping of minimum distances between vessels and maximum speed (Article 3). Also, both parties must render mutual assistance in case of untoward incidents, natural disaster, or serious injury or illness of crew men, Article 4(1).

In case of emergency (defined as serious injury other than epidemics, serious damage to engines or ship's body, serious leaking in ships' hulls, and hurricane or storm), Chinese vessels may enter three designated ports in Japan and Japanese vessels may enter three designated ports in China for limited duration upon notification to appropriate local authorities and compliance with certain rules.

To achieve compliance with the Agreement Article 6(1) and (2) provided that,

upon receiving evidence that the number of vessels in a fishing zone exceeds that allotted to a party under the present agreement, vessels of the other party shall report such violation in their own association which shall forward such information to the other association. The latter shall take appropriate measures against the delinquent vessels and report back on the measures taken. Disputes involving vessels of both parties should, if at all possible, be settled on the spot. Only after the failure of such a settlement should the disputes be referred to their respective associations for resolution.

The 1963 non-governmental Agreement<sup>50</sup> was similar to the 1955 one, except that the numbers of Chinese fishing vessels permitted to enter two of the six zones were raised to the same levels as those for the Japanese,

<sup>48</sup> L. T. Lee, *China and International Agreements* (Leyden, 1969), 59. The Sino-Japanese Fisheries Agreement, 1965.

<sup>49</sup> Described in Lee, *China and International Agreements*, 62.

<sup>50</sup> Described *ibid.* 65.

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which it has been suggested was a reflection of expanded fishing activity by China; fishing vessels of one party could also enter the ports of the other under the emergency entry rule of Article 4(2) if they were escorting a rescued crew or vessel; the number of Chinese ports in which Japanese fishing vessels could seek shelter was reduced from three to two; a more detailed method of communication between fishing vessels and port authorities was provided in the 1963 Agreement; and the exchange of fisheries experts and technicians was added to the exchange programme under Article 5.

There were three military zones and one conservation zone. The military zones consisted of (a) the Military Alert Zone in the north (connecting the eastern base of the Liaotung Peninsula to the tip of the Shantung Peninsula) which Japanese fishing vessels may not enter without special permission; (b) the Military Prohibited Navigation Zone (around the mouth of the Ch'ien t'ang River) to which the Japanese vessels are barred; (c) the Military Activity Zone in the south (encompassing Taiwan and its environs), which Japanese vessels may enter only at their own risk.<sup>51</sup>

The conservation zone was the East China Motor Trawler Prohibition Zone along the coastal waters of the Yellow Sea, and East China Sea for conservation of fishing resources, in which trawling by the Chinese as well as Japanese fishermen was banned.<sup>52</sup> In addition it included the establishment of sea fishing areas from the 38th parallel in the Yellow Sea to the 29th parallel in the East China Sea.<sup>53</sup> In each of these zones fishing during specified seasons by a maximum number of vessels of each party was permitted. In view of China's claim of a twelve-mile territorial sea limit, these zones begin from thirteen to eighty miles, or an average of fifty to sixty miles off the coast of China. The prohibited zones included one at the mouth of Bohai Bay, two in the large indenture between the Shantung Peninsula and Haichow (Tunghai) in the Yellow Sea, one at the Yangtse estuary near the Chou-Shan Archipelago off Shanghai, and three along the south-east China coast, scattered between Ningpo (in Chekiang) and Foochow (Fukien).<sup>54</sup>

Japan acquiesced in the first two zones on the understanding that their

<sup>51</sup> Ibid. 63.

<sup>52</sup> Park, *Rhode Island Occasional Paper* No. 18, p. 14.

<sup>53</sup> See *CB 724* (1963), 1-2, 7-15. Provision is made for time limit for fishing operations and maximum number of trawlers for each party in each area at particular time, detailed provisions concerning maintenance of order in fishery areas, methods for settling disputes, treatment to be accorded fishing boats of one party in the harbours of the other in case of emergency. *CB 724* (1963), 6; see also Sino Vietnamese Fishery Agreement, April 25, 1957, *SCMP* 1519, (April 30, 1957); Sino Korean Fishery Agreement, Yellow Sea, Aug. 25, 1959, *SCMP* 2088, (Sept. 1959), 35.

<sup>54</sup> *CB 724* (1963), 6; J. C. Hsiung, *Law and Policy in China's Foreign Relations* (New York, 1971), 111.

establishment would not result in discrimination against Japan. With respect to the third zone, the Japanese recognized the spirit of the advice and undertook to inform Japanese vessels accordingly.<sup>55</sup>

China has emphasized that a state's conservation measures belong to its domestic affairs and do not require the concurrence of another state. The Japan–China Fishery Council of Japan agreed to stop the operation of trawlers in the restricted zone, but 'of our own accord' notwithstanding that 'the internal law of a country cannot be directly binding on the people of another country on the open sea'.<sup>56</sup>

The 1975 governmental Agreement, like the non-governmental agreements, applied also only to the agreed fishery zones in the Yellow and East China Seas, and not to the territorial waters or coastal fisheries of the contracting states, see Map 4(a). China and Japan continued to maintain bilateral fishing arrangements to the extent that when the Japanese government decided to set up its 200 mile fishing zone the Cabinet decided in March 1977 that the East China Sea,—a part of the Pacific adjacent to the East China Sea, the Yellow Sea and the western part of the Japan Sea are excluded from the application of the fishing Zones as the areas of interest for the Republic of Korea and the People's Republic of China. As long as Korea and China do not establish their 200 mile zone, Japan would not take the lead in establishing the 200 mile zone (applicable to Korea & China) but would adhere to existing bilateral agreements with them.<sup>57</sup>

In the 1975 Agreement the area to which a 600-horsepower limit was to be applied was extended up to 100 to 150 miles east of the Chinese mainland ('horsepower regulation zone'). In this zone, trawlers with engine capacities of 600 horsepower or more and seiners with 660 horsepower or more are respectively prohibited from operating throughout the year. The horsepower regulation zones are agreed upon as less than any potential 200-mile economic zone such as emerged from the Law of the Sea Conference.

Some sections of the horsepower regulation zone were designated by various names for specific fishing regulations. With respect to trawling operations, two areas are closed for certain periods to fishing ('fishery fallow zones'), and there are three fishery protection zones in which restrictions are placed on the number of vessels and the fishing period. The total area covered by these two fishery fallow zones and the three fishery protection zones is approximately the same as that of the main six fishing zones designated under the earlier non-governmental agreement.

<sup>55</sup> Lee, *China and International Agreements*, 63.

<sup>56</sup> Letter from the Delegation of Japan China Fishery Council to the Delegation of the China Fishery Association, 9 Nov. 1963. *CB* 724 (1963), 5–6, Technical details of the Agreement, pp. 4–16.

<sup>57</sup> *JAIL*, 28 (1985), 109–10.

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With respect to seining operations, the horsepower regulation zone is divided by the line of the 32nd degree northern latitude into two seine fishery protection zones.

The trawl fishing prohibited zone and the military zones of the earlier non-governmental agreement were again recognized in the 1975 Agreement. The trawl fishing prohibited zone covers the same area and is one from which Chinese and Japanese fishermen are banned. Agreement was achieved again through the acceptance by Japan of self-restraint on her fishermen, whilst not in fact admitting the position of the Chinese government on the stipulated waters.<sup>58</sup>

Generally the 1975 Agreement puts greater stress on conservation, and imposes stricter rules for preservation and utilization of fisheries resources. However, safety regulations are not separately stipulated as in the earlier non-governmental agreements. The signatories are simply to take the necessary measures for safety over their own respective fishermen (Article 4).

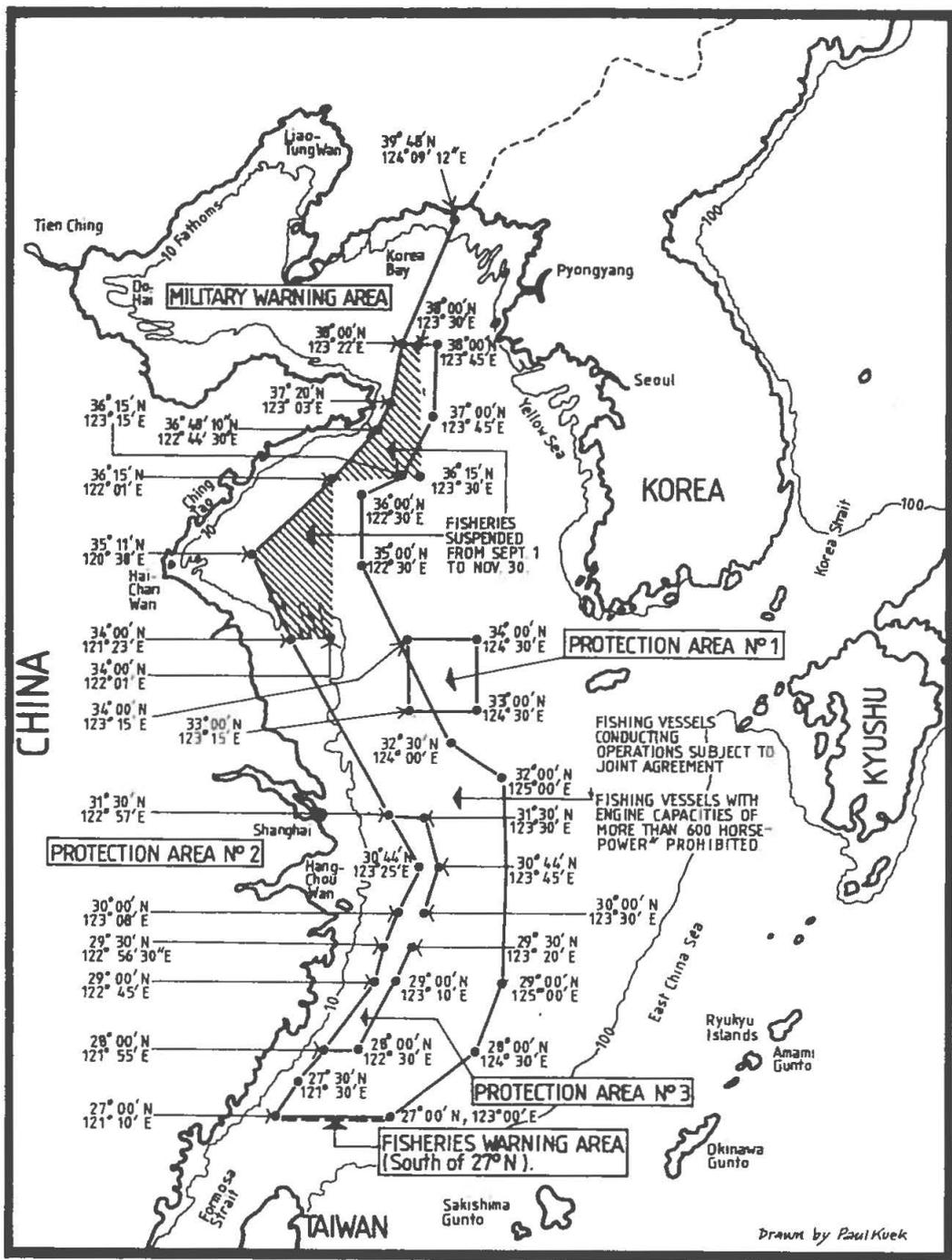
As with the earlier agreements the 1975 governmental Agreement designates ports of entry for emergency. There are currently four ports of shelter in China, namely: Wenchow, Shanghai, Lienyunkang, and Tsingtao. In Japan there are four ports of shelter, namely: Tzuhara, Hakata, Tamanoura, and Yamakawa. There is also detailed provision made for the method of communication between fishing vessels and port authorities.

To achieve compliance with this Agreement Article 3(1) provided that each of the signatory countries shall conduct proper guidance and surveillance over its own country's fishing vessels and dispose of breaches, and prevent the occurrence of such breaches. Each of the signatory countries is at liberty to notify the other of violations by its fishing vessels (Article 3(2)). Implementation of the Agreement is to be achieved by co-operation (Article 3(3)).

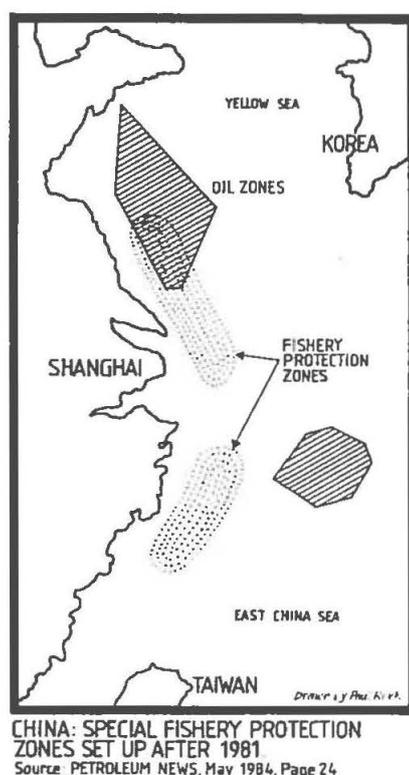
Of the three earlier military zones incorporated into the non-governmental agreements, the Military Navigational zone was discontinued in the 1975 governmental agreement. This zone was located in the coastal waters south of Shanghai wherein no vessel was admitted at any time. This leaves two Chinese military zones currently in force, namely: (1) the Military Security zone on the northern part of the Yellow Sea, which vessels can enter only with the permission of the Chinese Authorities concerned; (2) the Military Operational zone in the waters north of Taiwan and south of 29°N., in which vessels are advised not to fish.

Japan accepted these military zones with an understanding that 'the regulation of the zones shall be applied to all vessels regardless of nationality'. China acquiesced in this without condition, thereby indicating the general

<sup>58</sup> Japanese Side's Letter, Tokyo, 15 Aug. 1975, Foreign Minister of Japan, K. Miyazawa, to Mr C. Chen, Ambassador Extraordinary and Plenipotentiary of the People's Republic of China; *JAIL*, 28 (1985), 123.



Map 4(a) Fishing zones in Yellow and East China Seas  
 Source: *Limits in the Seas*, 70 (6 Apr. 1976), Geographer, US Dept. of State.

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Map 4(b) Special fishery protection zones after 1981  
Source: *Petroleum News* (May 1984), 24.

applicability of these zones to all vessels.<sup>59</sup> However, that the 1975 Agreement is a mutual agreement relating to fisheries only is clearly indicated by the first provision in Article 1(2) which stated: 'Provisions of this Agreement shall not be regarded as provisions to injure the two signatory countries' respective positions as to the jurisdiction over the sea.'

In 1981 the State Council in China set up two further Special Fishery Protection Zones expanding its own fishery rights claim further eastward in the East China and Yellow Seas (see Map 4(b)).<sup>60</sup> However, this appears to be connected with precautions taken over the operation of oil platforms in nearby zones. The 1983 Law on Marine and Environmental Protection (Appendix 7) authorizes the State Fisheries Administration to designate further zones. Under Article 4 special marine reserves and

<sup>59</sup> S. Y. Hong, School of Law, University of Maryland, *Occasional Papers*, Reprint Series in Contemporary Asian Studies, No. 6 (1977), 33-44.

<sup>60</sup> C. H. Park, in C. H. Park and K. J. Park (eds.), *The Law of the Sea: Problems from the East Asian Perspective* (Hondulu, 1987), 260; *Petroleum News*, 15, No. 2 (4 May 1984), 24, 'China Spells Out New Offshore Laws'.

sanctuaries may be established. Under the 1986 Fisheries Law (Appendix 12), Fishery Administration Departments are authorized to designate specially protected areas, prohibited fishing areas, and closed seasons (Article 20).

It was difficult to reconcile adjacent fishery zones of the type which China has established, with the Geneva Convention on the High Seas which declares that fishing is free outside the territorial sea. The only qualification to that freedom is that it be exercised by all states with reasonable regard to the interests of other states. The Geneva Convention on Fishery and Conservation of the Living Resources of the High Seas, on the other hand, does acknowledge the 'special interest' of coastal states, 'in the maintenance of the productivity of the living resources in any area of the high seas adjacent to the territorial sea' (Article 6). It presupposes negotiation and agreement prior to any unilateral action, but it lays down a conventional regime such as was established between China and Japan. A comparison with other examples of maritime security measures with that in the China Japan Fisheries Agreements indicates a substantial practice<sup>61</sup> in the establishment of such zones.

Viewed in the light of the 1982 Law of the Sea Convention China's subsequent steps with regard to fisheries are unremarkable. The exclusive fisheries zone is a recently evolved concept and the Convention adopted an approach which gave broad coastal state jurisdiction with respect to fishery management. This influenced much state practice even before its conclusion with respect to claims for official fishery zones. It is covered largely in the articles dealing with exclusive economic zones, and with the increasing acceptance of either exclusive economic zones or exclusive fishery zones over 90 per cent of the area where commercial fishing takes place will be affected. This is of great concern to distant water fishing nations such as the USSR and Japan. China's programme with respect to its fisheries appears to have long anticipated this development as embodied in the 1982 Law of the Sea Convention (see Appendix 13, Table 1).

With regard to the conservation measures in the China Japan Agreements, the concept of a coastal state's special rights in the international law of fisheries were embodied in the Geneva Convention on Fishing and Conservation of Living Resources (Articles 4-7), and subsequently the 1982 Law of the Sea Convention (Article 61).

In the Chinese view, protection of coastal state fisheries is 'natural' and the criteria for delimitation are 'geographical conditions', and needs of 'national economic interests'. Other countries might only enter after negotiations made on the precondition of 'non-encroachment of the sovereignty of the coastal State'.<sup>62</sup> China clearly emphasized the existence

<sup>61</sup> Park, *Rhode Island Occasional Paper*, No. 18, p. 20; Hong, n. 59 above, pp. 69-74.

<sup>62</sup> Chen Chihfang, UN Seabed Subcommittee II, 22 July 1972, *PR* 32 (11 Aug. 1972), 14; A/AC 38/SC II/SR 35 (1972).

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of 'exclusive' zones.<sup>63</sup> Thus in association with the question of fisheries conservation, China challenged the old principle of the 'freedom of the seas', one of the four freedoms enunciated in the Geneva Convention on the High Seas. This and the other freedoms are now regarded as having simply been the basis for the domination of the seas by the great maritime powers.<sup>64</sup> In particular, as to the Convention on Fishing and Conservation of the Living Resources of the High Seas, Article 7 in stating that the coastal state conservation measures should not discriminate against foreign fishermen, merely provides legal justification for 'plunder' of coastal state fishery resources.<sup>65</sup> Even the Soviet Union had admitted in a draft (submitted to the Seabed Committee) that coastal states had 'preferential' rights provided these were not inconsistent with conservation.<sup>66</sup> By agreement with the United States (in 1968) Soviet vessels did not operate on the high seas off the United States Atlantic coast from January to April each year.<sup>67</sup> The Geneva Conference resolution on 'Special Situations relating to Coastal Fisheries' provided for recognition of any preferential requirement of the coastal state 'where for the purpose of conservation it became necessary to limit the intensity of the fishing'. It has been pointed out that because of conservation, these preferential rights are potential 'exclusive rights'.<sup>68</sup> Significantly the Geneva Convention on Fishing and Conservation of the Living Resources of the High Seas, has not been widely ratified, and it seems one of the major reasons for this is its failure to satisfy a general demand that the special interest of the coastal state should involve priority over resources.

In addition to this encroachment on the traditional freedom of fishing on the high seas, by the support for extended exclusive fishing zones China has proposed a drastic change to the old juridical concept of the High Seas. This had been done principally with the aim of internationally regulating fishing everywhere. This was proposed in China's Working Paper on General Principles for the International Sea Area (Appendix 3) submitted to the UN Seabed Committee in August 1973.<sup>69</sup>

The Chinese position is that there is now a majority view that there should be a further differentiation between the area beyond and area within national jurisdiction, i.e. beyond the territorial sea there should be another area within national jurisdiction. Moreover, the concept of the

<sup>63</sup> *IJIL* 12, No. 4 (1972), ed. comment, p. 612; *PR* 48 (30 Nov. 1973), 22.

<sup>64</sup> Shen Weiliang, UN Seabed Subcommittee II, 29 Mar. 1973; *PR* 15 (13 Apr. 1973), 14. A Sino-Japanese agreement on laying a seabed cable between the two countries was signed 4 May 1973, *PR* 19 (11 May 1973), 23.

<sup>65</sup> Shen Weiliang, *ibid.*

<sup>66</sup> Chen Chihfang, *PR* 32 (11 Aug. 1972), 15.

<sup>67</sup> *NCNA* (29 Mar. 1973), 16.

<sup>68</sup> V. G. Amador, *Exploitation and Conservation*, 208, 209.

<sup>69</sup> A/AC 138/SC II/L 45 (1973); also in A/AC 138/SC I/L 25 (1973); also in *ILM* 12 (Sept. 1973), at 1262; Explanation of this paper by Shen Weiliang, A/AC 138/SC II/SR 75 (1973).

High Seas was outmoded, and there was no further basis for such a principle immediately beyond the territorial sea. Because of the traditional misuse of the freedom of the seas, China preferred to substitute 'international sea area' for the 'high seas'.

This represents an enormous departure from the old concept in that one of its implications is that an attempt is made to purportedly deal with the superjacent ocean space of the high seas and not just the ocean floor. Thus, 'the concept of the common heritage of mankind should be applied not only to the international sea bed area but also to the sea area, beyond the limits of national jurisdiction and its resources',<sup>70</sup> which are thus jointly owned by the peoples of all states. Similar provision is made for landlocked states as exist in the Geneva Convention on the High Seas, and also to the 'right' (cf. 'freedom') of navigation and overflight in the international sea area and in the airspace above (Articles 2, 4). In addition states have the right to lay cables and pipelines on the seabed of the international sea area.<sup>71</sup> The Chinese approach should be compared with that of the 1982 Law of the Sea Convention, Article 89, which provides: 'No State may validly purport to subject any part of the high seas to its sovereignty.' Article 87 continues to refer to 'freedom of the high seas' 'to be exercised under the conditions laid down by this Convention and other rules of international law'. This contrasts with the Chinese terminology of 'rights' in an international sea area. The freedoms Article 87 provided for included: (a) freedom of navigation; (b) freedom of overflight; (c) freedom to lay submarine cables and pipelines. These are 'rights' which China has recognized.

With respect to fishing, however, the position is different. Thus by virtue of Article 3 of China's Working Paper, 'Uses of the international sea area shall not prejudice the legitimate interests of other States and the common interests of all States.' Fishing in the international sea area is to be properly regulated to prohibit indiscriminate fishing and other violations of rules and regulations for conservation (Article 6). This is considered necessary because of depletion of stocks through indiscriminate fishing. Pending the establishment of a unified international fishery organization, states of a given sea area may set up a regional committee to work out appropriate rules for the regulation of fishing and the conservation of marine living resources in the international resource sea area. Fishing vessels of states of other regions may enter the said region for fishing activities provided they comply with the relevant rules and regulations of the region.

The Chinese approach appears somewhat more restrictive than that

<sup>70</sup> A/AC 138/SC II/SR 75 at p. 5; (Art. 1) A/AC 138/SC II/L 45.

<sup>71</sup> Art. 5, *ibid.* 1. *PR* 19 (11 May 1973), 23. China and Japan signed Agreement 4 May in Peking on laying seabed cable between the two countries; *NCNA* (13 Sept. 1973), 34.

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adopted in the 1982 Law of the Sea Convention, Article 87, which also provides for:

(e) freedom of fishing subject to the conditions laid down in Section 2: Conservation and Management of the Living Resources of the high seas.

Article 117 provides:

All States have the duty to take, or to cooperate with other States in taking, such measures for their respective nationals as may be necessary for the conservation of the living resources of the high seas.

And Article 118 provides:

States shall cooperate with each other in the conservation and management of living resources in the areas of the high seas. States whose nationals exploit identical living resources, or different living resources in the same area, shall enter into negotiations with a view to taking the measures necessary for the conservation of the living resources concerned. They shall, as appropriate, cooperate to establish subregional or regional fishery organizations to this end.

It is doubtful whether the articles on conservation go far enough in satisfying Chinese proposals concerning fishing on the high seas.

### 3. POLLUTION

As a country with a long coastline China considers preservation of the marine environment to be essential and favours strong coastal state jurisdiction in this sphere,<sup>72</sup> and there are some international precedents which support this view. In 1969 the Brussels International Convention relating to Intervention on the High Seas in Case of Oil Pollution Casualties provided that the states parties to it

may take such measures on the high seas as may be necessary to prevent, mitigate or eliminate grave and imminent danger to their coastline or related interests from pollution or threat of pollution of the sea by oil, following upon a maritime casualty or acts related to such a casualty, which may reasonably be expected to result in major harmful consequences.

The most radical unilateral action taken by any state was the Canadian Arctic Waters Pollution Act of 1970. Within defined pollution zones up to one hundred miles from its coast, the Canadian government took powers to control all shipping, to prescribe standards for the construction of vessels, to exercise a right of passage, to prescribe standards of navigation and operation, and to prohibit if necessary the passage of vessels in those waters. This approach represented the outer limit of encroachment upon flag state jurisdiction on the high seas by a coastal state. It was linked

<sup>72</sup> Chen Chihfang, A/AC 138/SC III/SR 25 (1972), 68.

with the concept of custodianship by the coastal state, which acts as an agent of the international community.<sup>73</sup> This represents the starting point for the Chinese views concerning the control of marine pollution.

At the International Marine Pollution Conference convened in London by the Inter-Governmental Maritime Consultative Organization in 1973, the International Convention for the Prevention of Pollution from Ships 1973 was adopted. China has rejected the argument which ensued<sup>74</sup> that the term 'jurisdiction' in that Convention should be limited to the territorial waters within twelve miles. She expressed support for the Canadian view that there is no existing rule of international law which supports such a restricted view of the term 'jurisdiction'.<sup>75</sup>

While China has frequently expressed concern for the international aspects of marine pollution, emphasis is always placed on injury to the coastal state as the direct victim of such pollution. It therefore has the necessary and full right to exercise direct jurisdiction and control over areas within given limits, which are adjacent to its territorial seas in order to prevent, reduce, or eliminate the serious harm of pollution. This is necessary for the coastal state's protection of the health and security of its people, and to meet the needs of their economic development.<sup>76</sup> The dumping of waste at sea is strictly controlled by the State Oceanic Administration under the 1985 regulations (Appendix 11 and covers 'the internal sea and territorial sea, . . . the continental shelf . . . and other sea areas under the jurisdiction of China'. Like the Canadians the Chinese have therefore also alluded to the link between conservation and marine pollution. Maintaining the ecological balance is especially referred to in the 1983 Marine Environment Protection Law (Appendix 7) which deals with pollution from diverse sources on land and sea.

Several arguments in support of strong coastal state jurisdiction have been made. One has been the issue of prevention. It is argued that any opposition to or weakening of coastal state jurisdiction is detrimental to the prevention of marine pollution and the possibility of preserving the marine environment. If one views the problem as basically one of public order and social regulation, rather than one of reparation for injury already suffered,<sup>77</sup> then there is a strong argument for stressing prevention. The link with conservation is undeniable. The 1958 Geneva Convention on Fishing and Conservation of the Living Resources of the High Seas acknowledged the 'special interest' of a coastal state 'in the main-

<sup>73</sup> R. Y. Jennings, *CLJ* 31 (1972), 44, 46.

<sup>74</sup> Argument of the Soviet Union.

<sup>75</sup> See *PR* 46 (16 Nov. 1973), 22; in Seabed Committee discussions representative Shen Weiliang has supported Tanzanian proposals amending a draft resolution on prevention of marine pollution (in A/AC 138/SC III/L 25), emphasizing coastal state responsibility; A/AC 138/SC III/SR 31 (1973).

<sup>76</sup> *PR*, (25 Aug. 1972), 12, Chen Chihfang, Subcommittee 3, 2 Aug. 1972.

<sup>77</sup> Jennings, n. 73 above.

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tenance of the productivity of the living resources of the high seas adjacent to its territorial sea' (Article (6)).

In addition measures taken by coastal states in protection of their marine environment and natural resources against pollution from outside sources are also justified by China on the basis of the concept of 'self-defence'.<sup>78</sup> 'International standards' and 'global measures' cannot therefore in any way diminish the jurisdiction of coastal states in preventing and controlling marine pollution.<sup>79</sup> Thus while the necessity for the establishment of an international regime is admitted by China, it is in no way envisaged as a substitute for anti-pollution regulation by coastal states.

While the existing international pollution legislation has been primarily concerned with oil pollution from passing vessels, China has also directed her attention to the problem of pollution through the dumping of large amounts of harmful wastes and toxic substances into the seas and oceans. It is particularly for this reason, that while China agrees on the need for concerted effort by all countries and increased international and regional measures, she also argues that such action could not replace regulation by the coastal states themselves. It is protection by coastal states of their own marine environments which, it is argued, is conducive to the protection of the marine environment as a whole.<sup>80</sup> Within this area a coastal state has the right to 'formulate its environmental policy and take all necessary measures to protect its marine environment and prevent pollution in the sea area under its national jurisdiction'; the only qualification on this right being the coastal State should 'have regard to the interests of all, including those of neighbouring countries'.<sup>81</sup> The nature of the interests to be so considered has not been elaborated on.

Moreover, a coastal state's rights, China claims, extend to claims for compensation by the coastal state against any state which damages their marine environment by pollution.<sup>82</sup>

The Chinese argument goes on to assert that coastal states also have the duty to take all effective measures to solve the problem of harmful discharge and spread of pollution to the marine environment of sea areas under the national jurisdiction of other states, or of international sea areas, from the sea under their own jurisdiction.

It is clear that for the purposes of environmental protection the Chinese divide the sea into two juridical entities; an area of national jurisdiction which goes beyond the territorial sea, the outer limit of which remains as yet undefined, but probably corresponds with the 200-mile exclusive

<sup>78</sup> Ibid. 79; H. F. van Panhuys, 'In Search of an International Law of Emergency with Specific Reference to the Law of the Sea', *NYIL* (1972), 48.

<sup>79</sup> Lo Juyu, A/CONF 62/C 3/SR 6 (1974), 2, 3; also *UN Official Records*, ii. 328.

<sup>80</sup> Chen Chihfang, A/AC 138/SC III/SR 25 (1972), 67-8.

<sup>81</sup> Lo Juyu, A/CONF 62/C 3/SR 6 (1974), 3.

<sup>82</sup> Chen Chihfang, A/AC 138/SC III/SR 25 (1972), 67-8.

economic zone; and the area beyond national jurisdiction. That there shall be such a set limit is reflected in the statement of representative Chen who has reiterated Chinese support for 'the right of the coastal States to exercise jurisdiction and control marine pollution over areas within given limits which are adjacent to their territorial seas for the purpose of preventing reducing or eliminating the serious harms of pollution'.<sup>83</sup> These words appear to have been interpreted by one American writer<sup>84</sup> as indicating that the Chinese government supports limited jurisdiction over a portion of the high sea in order to deal with pollution. However, any reference to limits refers only to the physical area of jurisdiction, and it will be shown that the extent of jurisdiction claimed by China is wide. The area of national jurisdiction for this purpose possibly corresponds with the proposed economic zone although there is no direct reference to this. As to the environmental protection in the area beyond national jurisdiction China proposes the establishment of international anti-pollution regulations. But these would only be effective if prepared on the basis of rights and interests of coastal states. The proposed regulations have been stated in the following terms:

first; each State has the right to formulate its environmental policy and take all necessary measures, in the light of its specific conditions, to protect its marine environment and prevent pollution in the sea area under its national jurisdiction. In doing so the coastal States should of course have regard for the interests of all and those of its neighbouring countries.

second; all States and especially the industrially developed countries have the duty to take all effective measures to solve their problem of discharging harmful substances and to prevent the pollution of the sea areas under their jurisdiction from spreading to and damaging the marine environment of the sea areas under the national jurisdiction of other States or the international sea areas.

third; international anti-pollution measures and standards should be adopted and appropriate and necessary international regulations should be enforced for the marine environment in the international sea area. No poisonous and harmful substances may be dumped at will into the international sea area. Discharge of radioactive substances and highly poisonous matters into the international sea area must be strictly prohibited.

fourth; all States and international organizations concerned should strengthen their cooperation in conducting anti-pollution research on the principles of respect for sovereignty and equality and natural benefit so as to promote the exchange and utilization of anti-pollution technology and data.<sup>85</sup>

The broad Chinese approach which stresses coastal state jurisdiction should be compared with the Informal Single Negotiating Text, prepared

<sup>83</sup> Chen Chihfang, *PR*, 34 (25 Aug. 1972), 12-13.

<sup>84</sup> C. D. Bethill, *International Lawyer*, 8, No. 4 (1974), 742.

<sup>85</sup> Lo Juyu, *A/CONF 62/C 3/SR 6* (1974), 3; *NCNA* (25 July 1974), 12; also *PR* 30 (26 July 1974), 7-8.

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at Geneva, 1975,<sup>86</sup> by the Third Committee on Protection and Preservation of the Marine Environment, which appeared more qualified in its treatment of coastal control of marine pollution.

The Informal Composite Negotiating Text, prepared at New York, 1977,<sup>87</sup> followed the spirit of the Chinese approach, but still referred to the right of the coastal state in formulating its environmental policy in modified terms. Indeed there was less emphasis on the role of the coastal state in this matter.

In her statements of policy concerning marine pollution, as contained in her proposed regulations, China was reiterating much of what her delegation had stressed at the earlier UN Stockholm Environment Conference (1972). There they had called for 'energetic measures' to be adopted to stop the actions of 'dumping harmful substances on the high seas, polluting the sea water, damaging marine resources and threatening navigation and safety of coastal countries'.<sup>88</sup> However, these statements of principles were not accompanied by any detailed consideration of the exact nature such measures could take in practical terms, nor exactly how they could be enforced.

This very simple division by China of the sea area for the purposes of pollution control into just two zones apparently avoids the possible complication which might otherwise arise from a multiplicity of different zones of waters, and of seabed and subsoil. Moreover, it envisages that the waters beyond national jurisdiction, viz. the outer of these two zones, shall in no sense remain 'free' and unregulated with regard to marine environmental protection. There is some existing precedent for the extra-territorial extension of coastal state jurisdiction onto the high seas in the form of the right of hot pursuit. However, any argument which seeks to give precedence to coastal state jurisdiction in pollution control over rights of navigation in the flag states, comes into conflict with so well established a right, that it would be difficult to sustain, even on the grounds of international protection against pollution. Despite this difficulty China continued to support the ever increasing assertions of such pollution jurisdiction, by a number of states at the Third International Conference on Law of the Sea, of a coastal state's right to apply rules against pollution in an extensive zone of adjacent sea, and this came to be reflected in the 1982 Law of the Sea Convention.

In it the legislative competence of coastal states has been reduced in respect of the kind of pollution regulations which may be adopted, but increased in respect of the geographical area to which such regulations may be applied. In the territorial sea the coastal state may prescribe

<sup>86</sup> A/CONF 62/WP 8/Part III, 7 May 1975.

<sup>87</sup> A/CONF 62/WP 10/Add 1, 22 July 1978.

<sup>88</sup> Tang Ke, *PR* 24 (16 June 1972), 8.

pollution regulations for foreign vessels in innocent passage, provided such regulations do not 'apply to the design, construction, manning or equipment of foreign ships unless they are giving effect to generally accepted international rules or standards (Article 21(2)). Moreover, such regulations must be duly publicized, must be non-discriminatory, and must not hamper the innocent passage of foreign vessels (Articles 21(3), 24, 211(4)). Where the territorial sea consists of straits subject to the regime of transit passage, the coastal state's legislative competence is even more restricted. Here pollution regulations may be adopted only if they give 'effect to applicable international regulations regarding the discharge of oil, oily wastes and other noxious substances in the strait' (Article 42(1)). Such regulations must be non-discriminatory, must not hamper transit passage and must be duly publicized by the state (Article 42(2), (3)).

Whilst the Convention restricted the scope of coastal states' legislative competence in their territorial sea, it increased the geographical scope of their legislative competence by giving them certain powers to legislate for marine pollution from foreign vessels in their exclusive zone. Under Article 211(5) a coastal state may adopt pollution legislation for its exclusive economic zone which conforms and gives effect to 'generally accepted international rules and standards established through the competent international organization or general diplomatic conference' although the scope of such rules is not defined. Where the latter rules are considered inadequate to provide sufficient ecological protection for certain areas of the exclusive economic zone, the coastal state may adopt regulations implementing international rules and standards or navigational practices which the IMO has made applicable to special areas, or it may adopt additional regulations of its own, provided that these do not impose design, construction, manning, or equipment standards on foreign vessels other than generally accepted international rules and standards.<sup>89</sup>

Article 56 confers jurisdiction on the coastal state as provided for in the relevant provisions of the Convention. With regard to the protection and preservation of the marine environment, the 'relevant provisions' of the Convention are to be found in Part XII, and this part gives the coastal state legislative and enforcement competence in its exclusive economic zone to deal with the dumping of waste (Articles 210(5), 216), other forms of pollution from vessels (Articles 211(5-6), 220, 234), and pollution from seabed activities (Articles 208, 214). The coastal state's competence to regulate pollution from seabed activities is broadly similar to the powers which a coastal state has hitherto enjoyed under the continental shelf regime. However, the powers to control pollution in the

<sup>89</sup> R. R. Churchill and A. V. Lowe, *The Law of the Sea* (Manchester, 1988), 256-7.

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exclusive economic zone given to a coastal state by the Law of the Sea Convention are novel, in that the coastal states' only powers in areas beyond the territorial sea have been those powers to take action against maritime casualties threatening or causing serious oil pollution which are given by the 1969 International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties.<sup>90</sup>

With respect to vessel-based pollution, China's 1983 Marine Environment Protection Law (Appendix 7) is similar in its direction to the 1969 Brussels Convention on Civil Liability and the 1973 International Convention for the Prevention of Pollution by Ships. The Brussels Convention deals mainly with imposing and apportioning liability upon owners of ships spilling or discharging oil and providing compensation. However, in comparison with the 1973 International Convention on Prevention of Pollution China takes an expansive view of jurisdiction in relation to vessel-based pollution beyond its territorial waters.

Article 26 of the Marine Environment Protection Law provides: 'No vessels shall discharge oils, oily mixtures, wastes and other harmful substances into the sea areas under the jurisdiction of the People's Republic of China in violation of the provisions of this Law.' Under Article 2 this applies not only to ships in internal waters and territorial sea, but also to the discharge of harmful substances and dumping of wastes done beyond the sea under the jurisdiction of the People's Republic of China, but causing pollution damage to such areas.<sup>91</sup> The 1982 Law of the Sea Convention, in some of its innovative provisions, appears to move closer to the Chinese position on pollution. For instance, under Article 218, a port state can take legal proceedings where a vessel is alleged to have discharged polluting matter outside that state's territorial sea or its exclusive economic zone 'in violation of applicable international rules or standards . . .'.

#### 4. NAVIGATION

##### (a) *General*

With regard to navigation, China has on a number of occasions alluded to the principle of the freedom of the high seas. In reference to nuclear tests in the Pacific, the view was expressed that this undermined the universally acknowledged principles of international law concerning the freedom of

<sup>90</sup> Ibid. 139-40.

<sup>91</sup> Mitchell A. Silk, 'China's Maritime Environmental Protection Law', Occasional Paper in Contemporary Asian Studies, No. 6 (1985), 7-22; *Petroleum News*, 14, No. 2 (Mar. 1984), 11, 'China's New Pollution Laws'; Fan Zhijie, 'Marine Pollution Legislation in China: Retrospect and Prospect', *Marine Pollution Bulletin*, 20 (1989), 333-5.

navigation of the high seas.<sup>92</sup> The high seas did not belong to any country and no country had the right to occupy part of the high seas and exclude flight and navigation there by the planes and ships of other countries.<sup>93</sup> Particular concern centred around the exclusion of navigation in and around the test zone. In addition, provision was made for freedom of navigation of the sea areas involved in the 1963 Fishery Agreement for the Yellow Sea and the East China Sea (Article II(2)).<sup>94</sup> It was stipulated 'that the provisions . . . shall not restrict navigation in the agreed sea areas' and to this extent the freedom of the seas was preserved in that the Chinese did not extend sovereignty to these zones. To date China has not made any serious challenges to this freedom, except in so far as it relates to the question of exploitation of resources.

(b) *Regional problems*

A tendency has emerged in the discussions of the law of the sea to consider the high seas from a regional point of view, especially for the passage of warships. China has supported Mediterranean countries such as Algeria, Libya, Morocco, and Tunisia and other contiguous countries in the moves towards declaring the Mediterranean 'a sea of peace',<sup>95</sup> since the inclusion of large maritime powers was a threat to the independence and sovereignty of those countries. Hence the Mediterranean Sea 'belongs essentially to those countries washed by the Mediterranean'.<sup>96</sup> In response to what was described as the militarization of the Indian Ocean, China supported a declaration stating it to be a 'zone of peace'. She has challenged military maritime activities taking place under 'the signboard of the so-called freedom of the sea'.<sup>97</sup> That declaration in substance was little more than a request by about half of the members of the UN to the great powers 'to enter into immediate consultations with the littoral States of the Indian Ocean' with a view to halting further escalation of a military presence and eliminating all bases etc. The Declaration itself was of little substance, in stating that 'the Indian Ocean within limits to be determined together with the airspace above, and the ocean floor sub-

<sup>92</sup> Cheng Tao, n. 3 above, p. 63; Johnston, *International Law of Fisheries*, 103. (China not a signatory to 1963, Nuclear Test Ban Treaty, which dealt with conducting nuclear tests on the high seas.)

<sup>93</sup> *SCMP* 1744, (April, 1958) 37.

<sup>94</sup> *CB* 724 (1963), 1.

<sup>95</sup> *Ibid.*, Chen Chihfang, *A/C I/PV* 1910, pp. 8-10, 11; *PR* 15 (14 Apr. 1972) 16; *PR* 15 (13 Apr. 1973), 18-19; *NCNA* (12 Apr. 1973), 6.

<sup>96</sup> *PR* 41 (12 Oct. 1973), 15; *NCNA* (12 Oct. 1972, 4 Oct. 1973, 22 Nov. 1973).

<sup>97</sup> Chen Chihfang, *NCNA* (14 Dec. 1972), 12, 13. Declaration adopted 16 Dec. 1971—sponsored by Sri Lanka, 72 for, nil against, 35 abstentions; *PR* 2 (14 Jan. 1972), 16-17; *PR* 15 (15 Dec. 1972), 8; *PR* 18 (4 May 1973), 20. (Special Note: Maritime Transport Agreement: Chile and China, Jan. 1973; *PR* 13 (30 Mar. 1973).)

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jacent thereto, is hereby designated for all time as a zone of peace'.<sup>98</sup> Its greatest importance lies in its reflection of the interests of littoral and hinterland states of the Indian Ocean. Of the five nuclear powers, only China voted in favour, although she then had no direct naval interest there.<sup>99</sup> In addition China was a member of the *ad hoc* committee established to study the implementation of the proposal, with special reference to the measures that may be taken to further the objectives of the resolution.<sup>100</sup> By the same resolution which set up that committee, the General Assembly urged the Big Powers and other maritime users of the Indian Ocean, as well as states of the area, to support the notion of the Indian Ocean as a zone of peace.<sup>101</sup> The practical effect of such declaration must, however, be regarded as nugatory.

##### 5. NATIONALITY OF SHIPS AND JURISDICTION OVER COLLISIONS AND OTHER MARITIME INCIDENTS AT SEA

In practice, in terms of its navigation and commerce treaties, China has expressed the general principle in international law of each state's freedom to bestow its nationality upon vessels through its municipal legislation. The Sino-Soviet Treaty of Commerce and Navigation Article 10(1) 1958 states that 'the nationality of vessels shall be reciprocally recognized on the basis of the documents and certificates on board the vessels, issued according to law by the proper authorities of the contracting party whose flag the vessel flies'.<sup>102</sup> In past practice the Chinese requirement for the issuance of its certificate of nationality was that all ships be exclusively Chinese property, whether under private, public, or mixed ownership, and in the former case that all owners should be Chinese nationals,<sup>103</sup> and this appears to be still the position.

As indicated earlier,<sup>104</sup> China acceded in 1957 to the 1948 International Regulations for Preventing Collisions at Sea, subject to the reservation that the rules would not apply to her non-powered vessels. Those regulations were specifically invoked after an incident on 3 March 1971 when a Soviet ship, the *Ernst Thaelmann*, collided with a Chinese fishing boat which sank on the high seas about sixty nautical miles south-west of

<sup>98</sup> Res. 2832 (XXVI), *ILM* 11 (1972), 217.

<sup>99</sup> E. D. Brown, *Annals of International Studies* (Geneva, 1973), iv. 80.

<sup>100</sup> *ILM* 12, No. 1 (Jan. 1973), 250; Report of Joint Committee on Foreign Affairs on the Indian Ocean Region, Parl. of Cwlth. of Australia, Parl. Paper, No. 258, pp. 4, 29.

<sup>101</sup> Res. 2992 (XXVII).

<sup>102</sup> *SCMP* 1760 (23 Apr. 1958), 32.

<sup>103</sup> Cheng Tao, n. 3 above, p. 68. In Article II of the Temporary Regulations concerning the Issuance of the Certificate of Nationality of Vessels.

<sup>104</sup> See Ch. 2.

Shanyu Port on Hainan Island in Kwangtung Province. It was claimed that this serious marine accident was entirely caused by the fact that the Soviet ship failed to observe the internationally established rules on the prevention of collisions of sea vessels, and did not make way for the Chinese fishing vessel which was sailing with its diesel engine at rest.<sup>105</sup>

Chinese warships or military aircraft sailing on or flying over the high seas or anchored in a foreign port, and non-military ships and aircraft sailing on or flying over the high seas under Chinese flags, are considered to be subject to Chinese criminal jurisdiction.<sup>106</sup> They are considered to be a part of Chinese territory.

With respect to jurisdiction over maritime incidents, the 1952 Brussels Convention on Maritime Law,<sup>107</sup> and 1958 Geneva Convention on the High Seas (Article 11), gave penal jurisdiction to the flag state and state of the defendant's nationality. The Brussels Convention gave civil jurisdiction to the state of the defendant's residence or place of business, the state of arrest or bail, and the state in whose inland waters a collision occurred.

It has been pointed out by the Chinese jurist Ni that the dual penal jurisdictions affirmed by these two conventions are different from the answer to the question of criminal jurisdiction given in the jurisdiction of the *Lotus* case.<sup>108</sup> These two conventions only allow the non-flag state to bring action against her own nationals' offences on the high seas. On the other hand, the *Lotus* case allowed the non-flag state to bring action against the citizens of the flag state for offences committed on the high seas. The conventions were based on the nationality of the accused to allow the non-flag states to exercise their dual jurisdiction, but the *Lotus* judgment depended on the doctrine of 'effects' in order to allow the state which was on the receiving end of the consequences to exercise her jurisdiction over any of the offenders on board ship, including the flag state's nationals. However, this was also negated by the 1982 Law of the Sea Convention Article 97 which provides that in the event of collision or other maritime incident, 'no penal or disciplinary proceedings may be instituted,' against the master or other person in the service of the ship 'except before the judicial or administrative authority either of the flag state or of the state of which such person is a national'.

Amongst regulations promulgated by China since then are the 1959 Regulations Governing the Investigation of Maritime Accidents and Losses. These establish Chinese jurisdiction over a foreign vessel involved in maritime incidents where damage was caused to the property of

<sup>105</sup> *PR* 17 (23 Apr. 1971), 19.

<sup>106</sup> *HFTT (Lectures on the Principles of the Criminal Law CPR)*, 36 n. 1.

<sup>107</sup> *Cmd.* 8954.

<sup>108</sup> Case of the *SS Lotus* (1927) *PCIJ Ser. A*, No. 10.

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Chinese nationals, where the incident occurred in China's territorial sea, or where investigation and settlement was requested by the Consular Officer of the flag state.<sup>109</sup> Such jurisdiction by reference to the nationality of the person injured (the passive personality principle) by an offence did not feature in the 1952 Brussels Convention and the 1958 Geneva Convention on the High Seas.

By virtue of the Chinese regulations, the duty of investigation of collision and damage incidents is the responsibility of the Chinese sea port navigation administration authority, nearest to the place of the incident (Article 4(11)).<sup>110</sup> When a collision occurs it should soon after the event or within forty-eight hours of entering the first port, be reported to the Chinese Harbour Navigation Administration Authority of that port. That Authority has the power to order the foreign ship which caused the collision and damage to produce a guarantee, and prevent it from leaving the port (Article 13(3)). The Authority after taking jurisdiction over the issue of liability for a collision should inform the parties concerned either to apply to the Chinese International Promotion of Trade Committee, the Maritime Arbitration Committee to arbitrate, or to bring an action to the Chinese People's Court, within a limited period; or they may agree to allow the Authority itself to deal with the matter and draw up conclusions (Article 1). Once having agreed to allow the Authority to settle the matter, the parties cannot then apply again to arbitration, or seek to appeal to a People's Court.

That such a claim to jurisdiction over collisions goes beyond the territorial sea where damage has occurred to Chinese nationals was made clear by the Chinese writer Ni. In such cases, where the persons on the ship causing the incident have commercial representatives in China, or have property for guaranty, China ought to seek to exercise jurisdiction. Such vessels on entering a Chinese port, or being brought into a Chinese port will be subject to the Chinese courts. If a foreign ship in collision on the high seas with a Chinese ship sails to the port of a third country, that port as the first destination of the vessel after the incident can be requested by China to assist in its arrest, and in the settlement of the incident.<sup>111</sup>

Jurisdiction in salvage cases is viewed by the same writer in the same light as collision and damages cases. Reference has been made to the principle that the court within whose jurisdiction the salvaged ship or cargo are present, has the right to exercise jurisdiction over such a claim,

<sup>109</sup> *FKHP (Compendium of Laws and Regulations CPR)*, x. 335; Instance of Maritime Incidents; *PR* 17 (23 Apr. 1971); *JMJP* (16 July 1962). Regulations are issued by CPR Ministry of Transport.

<sup>110</sup> From Ni, *The Question of Jurisdiction in International Law* (Peking, 1964).

<sup>111</sup> *Ibid.*

even though both ships belong to foreign countries. The Western view is that the law relating to salvage that would be applied would be the law of the flag of the salvaging ship if the collision occurred on the high seas (or the law of the local state if it occurred in the territorial sea).<sup>112</sup> No specific reference appears to have been made concerning this question of the law to be applied to those salvage cases so coming within the jurisdiction of Chinese courts, but application of the law of the flag state seems unlikely, even if Chinese vessels are not involved.

Also in connection with fisheries jurisdiction, when the Soviet Union put forward draft articles in Seabed Subcommittee II in 1972 which sought to limit the jurisdiction of the coastal state to recording merely breaches by foreign vessels, and to give sole jurisdiction to the flag state, China rejected this as impracticable; since in such a situation the flag state would never exercise jurisdiction, or at least could not be relied on to do so.<sup>113</sup>

The foregoing discussion makes it apparent that Chinese policy does not favour strong flag state jurisdiction on the high seas, particularly where damage results to China or her subjects. This is to be contrasted with the 1982 Law of the Sea Convention Article 92, which states that ships shall sail under the flag of one state only and, save in exceptional cases expressly provided for in international treaties or this Convention, shall be subject to its exclusive jurisdiction on the high seas.

<sup>112</sup> O'Connell, *International Law*, 657.

<sup>113</sup> Chen Chihfang, *PR* 32 (11 Aug. 1972), 15.

**Annex 701**

Intentionally Omitted



**Annex 702**

Lee G. Cordner, "The Spratly Islands Dispute and the Law of the Sea", *Ocean Development and International Law*, Vol. 25, No. 1 (1994)



## The Spratly Islands Dispute and the Law of the Sea

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*The Spratly Islands lie in the South China Sea, adjacent to strategically important sea lines of communication in an area possibly rich in hydrocarbon deposits. Six proximate states have made overlapping claims to territorial sovereignty over all or part of the islands, the bases for which are complex with little commonality. The prospect of the law of the sea providing the key to resolution of the dispute is limited, even though each of the protagonists variously refers to the 1982 United Nations Convention on the Law of the Sea to support its claims.*

The Spratly Islands group or archipelago is situated in the South China Sea and comprises a collection of hundreds of shoals, reefs, atolls, and small, mostly uninhabited islets. Although the archipelago is predominately of volcanic origin, considerable sedimentary deposition is evident in some parts. The Spratlys lie 900 miles south of the Chinese island of Hainan, 230 miles east of the Vietnamese coast, 120 miles west of the Philippine island of Palawan, 150 miles northwest of the Malaysian State of Sabah; and they cover an area of approximately 150,000 square miles.<sup>1</sup>

The Spratlys are separated from the continental shelves of China and Taiwan by a 3,000-meter trench to the north and northeast and from the Philippines, Brunei, and Sabah (Malaysia) by the East Palawan Trough. The area is poorly surveyed and marked as “Dangerous Ground” on navigation charts. The largest island, Itu Aba, is 0.4 square miles in area, and Spratly Island is 0.15 square miles.

Strategically vital sea lines of communication—linking the Indian and Pacific oceans via the Malacca, Sunda, and Lombok straits—run close by the islands. Maritime traffic proceeding to Southeast and Northeast Asia, Indo-China, and the central and eastern Pacific, all traverse the South China Sea. Exercise of sovereign control of the Spratlys, with the attendant territorial seas and exclusive economic zones (EEZs), presents a potentially central and commanding position in the region. The regional strategic balance has undergone recent and dramatic change with the collapse of the Soviet Union and its withdrawal from Cam Ranh Bay, the United States’ withdrawal from the Philippines, the emergence of the Peoples Republic of China (PRC) as a maritime power, and the strong economic growth of the smaller regional powers, principally South Korea, Taiwan, and Singapore. A 1969 United Nations seismology report declared that the area was possibly rich in hydrocarbon deposits.<sup>2</sup> Tangible evidence of economically viable seabed exploitation south and east of the Spratlys is already available, as Brunei has a highly productive offshore oilfield and Malaysia is already a significant exporter of natural gas.

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Six coastal states lay claim to all or part of the Spratly Islands: the PRC, Taiwan, and Vietnam claim all islands; Malaysia and the Philippines claim several islands, and Brunei claims one reef. The bases for these claims vary from historical (PRC, Taiwan, and Vietnam), to right of discovery (Philippines), to continental shelf prolongation (Malaysia and Brunei).

Disputes over territorial sovereignty are complicated by conflicting and overlapping bilateral and multilateral claims without a common basis for negotiation. This article briefly outlines the respective claims and examines the relevance and utility of the United Nations Convention on the Law of the Sea (LOSC)<sup>3</sup> as an aid to resolution. Although the LOSC has not yet come into force—56 of the necessary 60 state signatures had been obtained as of June 1993<sup>4</sup>—the navigation provisions are generally accepted as customary international law. (See Figure 1.)

### Claims to the Spratly Islands

The various claims to the Spratly Islands are complex, being based upon incomplete and sometimes inconsistent historical data, ancient oriental concepts of ownership, and imaginative interpretations of contemporary international law. The claimants' cases are presented in chronological sequence, beginning with the earliest historical "evidence of sovereignty."

#### *PRC and Taiwan*

The PRC and Taiwan begin with the same historical claim that the Spratly Islands and other islands in the South China Sea have been Chinese territory "since ancient times."<sup>5</sup> The islands of the South China Sea are collectively described in Chinese mythology as the "Tongue of the Dragon" and are seen as an inseparable part of China. Since the separation of the PRC and the Republic of China (ROC or Taiwan) in 1947, separate claims and attempts at occupation and administration have been pursued.

The Chinese claim to have first recorded using the Spratlys for fishing activities in the Western Han Dynasty (206 B.C. to A.D. 24).<sup>6</sup> During the 10th–16th centuries, the South China Sea was used as a principal Chinese transit route for world trade. Chinese claim to have surveyed, worked, and administered the islands in the period A.D. 206–220.<sup>7</sup> Specific records of transit were reported in 1292, during the Yuan Dynasty (A.D. 1280–1368), and in 1403–1433 by the Chinese navigator Cheng Ho of the Ming Dynasty (A.D. 1368–1644), when the Spratlys were first roughly charted. The islands were geographically described by a Chinese scholar, Ch'en Lun-Chiung in a book published in 1730. The names used for the islands change frequently in Chinese literature, which makes research confusing; the PRC has used the name Nansha Islands since about 1934. There is evidence of intermittent use of some Spratly Islands and surrounding waters by Chinese fishermen, principally from Hainan Island, since ancient times.<sup>8</sup> Chinese claim that the Spratlys were "terra nullius" prior to their discovery and that they have been "effectively occupied" by Chinese fishermen "since time immemorial."<sup>9</sup> Ancient records are sparse, incomplete, and do not provide compelling evidence of routine occupation, effective administration, or assertion of sovereign control. The claim that the islands were exclusively Chinese is further weakened by an official Chinese government report published in 1928 that shows the southernmost delineation of Chinese territory as the Xisha Islands (Paracels) and makes no mention of the Nansha (Spratly) Islands.<sup>10</sup>

More recent history includes a treaty between China and France dated June 26,

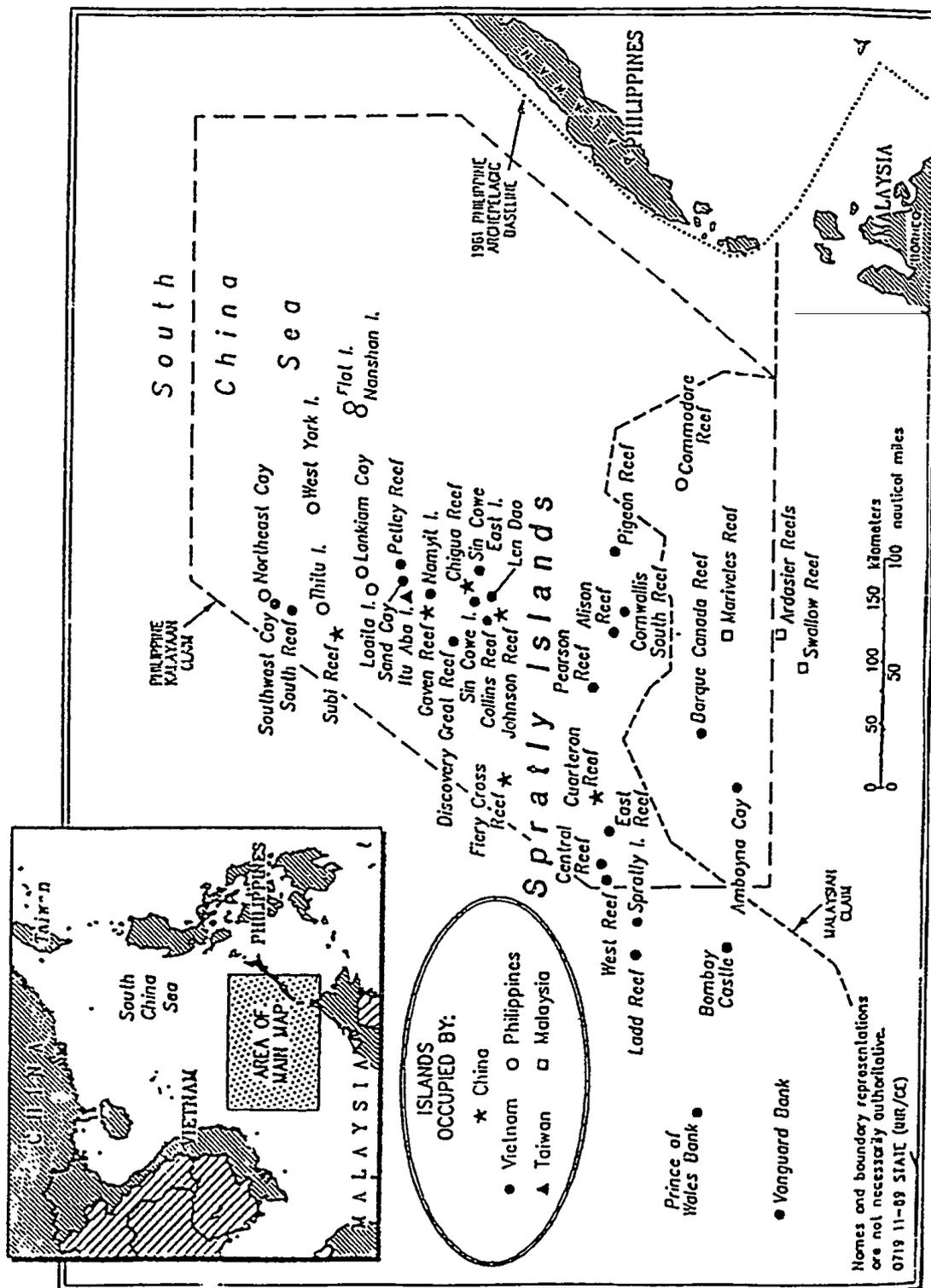


Figure 1. Spratly Islands dispute.

1887, which formalized the establishment of Vietnam as a French protectorate, and in which the French laid claim to territory west of 105°43' east of Paris (or 108°03' east of Greenwich) to be French, therefore ceding territory east of this line to China. Since the Spratlys lie east of the prescribed line, the Chinese argue that the 1887 treaty constitutes further evidence of Chinese ownership, even though the islands are not named, no north/south or eastern limits are specified, and respective interpretations of the treaty in Chinese and French are controversial.<sup>11</sup>

On July 25, 1933, France announced that it had occupied and placed under its sovereign control a number of islands in the South China Sea (including some in the Spratly archipelago). This assertion was protested diplomatically by China in 1933 and again in 1934. In 1939, Japan invaded Hainan and the Paracel and Spratly Islands, establishing the first recorded permanent garrison and effective sovereign control over the Spratlys. The Japanese dubbed the islands "Shin-Nan Gunto" (New South Islands) and placed them under Taiwanese jurisdiction (then a territory of the Japanese Empire). The Japanese withdrew in 1945. In November 1946 the ROC sent a naval contingent, followed by a small garrison, to Itu Aba islet in the Spratlys, and in 1947 placed them administratively under Kuangtung Province, to be followed by the temporary "administration of the Navy."<sup>12</sup> ROC forces withdrew to Taiwan in May 1950 when PRC forces landed on Hainan Island.<sup>13</sup>

The San Francisco Allied-Japanese Peace Conference in September 1951, in which neither the PRC nor the ROC participated, stated that "Japan renounces all right, title, and claim to the Spratly Islands . . ." <sup>14</sup> but did not name a sovereign successor. The PRC Foreign Minister, Chou En-lai, protested the treaty, stating that "no matter how these provisions are worded, the inviolable sovereignty of the People's Republic of China over Nanwei Island (the Spratly Islands) . . . will not be in any way affected."<sup>15</sup> A separate, bilateral treaty was signed between Japan and the ROC on April 28, 1952. It stated: "It is recognized that under Article 2 of the Treaty of Peace with Japan signed at the city of San Francisco . . . on September 8, 1951, Japan has renounced all right, title and claim to Taiwan (Formosa) . . . as well as the Spratly Islands. . ." <sup>16</sup> Taiwan claims that this treaty is compelling and substantive proof that the ROC thenceforth exercised "complete sovereignty" over the Spratly Islands.<sup>17</sup>

Taiwanese physical occupation of the Spratlys was suspended in 1950. The ROC government claims to have reestablished its garrison on Itu Aba in 1956, and has maintained and supported it with naval patrols since. On September 4, 1958, the PRC issued a Declaration of Territorial Sea, extending its territorial sea boundary to 12 nautical miles, stipulating the use of straight baselines, and claiming the Nansha (Spratly) Islands as belonging to China.<sup>18</sup> In 1973, Vietnam occupied several Spratly islands, which prompted a very strong warning from the PRC in January 1974.

The PRC's first assertion of effective control occurred in March 1988, when it encountered Vietnamese supply forces in a brief naval engagement, sinking three transport vessels and killing 72 Vietnamese troops. The PRC subsequently took possession of several insular features, including Fiery Cross Reef. The latter is 14 nautical miles long, has been developed as a base for the Peoples Liberation Army-Navy (PLA-N) South China Sea Fleet, and includes an air strip.<sup>19</sup> The PRC claim to sovereignty of the whole Spratly Island group was reiterated on February 25, 1992, in its declaration of "The Law of the People's Republic of China on the Territorial Sea and the Contiguous Zone," which specifically identifies the Nansha (Spratly) Islands in Article 2.<sup>20</sup> The PRC moved to allay fears of Chinese hegemony among the regional states by participating in multi-lateral talks hosted by Indonesia at Bandung in July 1991 (an informal meeting attended

by the PRC, Vietnam, and Taiwan),<sup>21</sup> and during Li Peng's visit to Hanoi in December 1992.<sup>22</sup> The PRC has indicated a willingness to negotiate peacefully with Vietnam to resolve territorial disputes, urging that "because some of the problems are very complicated, we must not become impatient."<sup>23</sup> In a joint communiqué "both sides" agreed to seek to use "the generally recognised principles of international law . . . (to) accelerate the process of negotiations to settle the territorial and boundary disputes. . . ."<sup>24</sup> The possibility of laying aside the territorial and sovereignty issue to facilitate mutually beneficial cooperation in developing resources has also been proposed by the PRC.<sup>25</sup>

*Comment.* The PRC and Taiwan cite the same ancient historical evidence to support their claims of sovereign control of the Spratly Islands. While the assertion of "terra nullius" status prior to Chinese discovery is undoubtedly valid, the subsequent history is unconvincing. Evidence is sparse, intermittent, and does not evince of continuous occupation, administration, or effective control but, rather, occasional transit by mariners and infrequent visitation by fishermen. The case for secession to China of the Spratlys by the Sino-French Treaty of 1887 is vague and nonspecific and is weakened by the official 1928 Chinese chart excluding the Spratlys. Apart from occasional diplomatic protests, PRC occupation and therefore effective control in the Spratlys did not occur until 1988, when naval facilities and garrisons were established on a small number of features. The Taiwan case appears stronger in the contemporary period in its having effectively occupied Itu Aba Island between 1946 and 1950 and from 1956 onward, combined with the Japanese surrender of ownership of the Spratlys in the Japan-Taiwan Treaty of 1952, although this treaty did not cede sovereignty specifically to Taiwan or any other state. However, the Taiwanese claim can probably be effectively sustained only for Itu Aba, not the whole of the Spratly archipelago.

### *Vietnam*

The Vietnamese claim to sovereignty over all the Spratly Islands derives from historical arguments premised upon events both before, during, and after French occupation. Recent official Vietnamese documents claim that ownership can be traced back to 1650–1653, although the basis for this claim is not identified.<sup>26</sup> Governance under Emperor Gia-long is claimed from 1816, and an inaccurate 1838 Vietnamese map presents the Spratlys under the name of "Van Ly Truong Sa," as part of Vietnamese territory.<sup>27</sup> The Vietnamese lost interest in the Spratlys during the French occupation. In the Sino-French Treaty of 1887, the French protectorate declarations over Vietnam specifically avoided claims to South China Sea territory.<sup>28</sup>

The French government sent a naval expedition to the Spratlys in 1933 and laid claim to six or seven groups of islets. Only Japan protested, claiming Japanese occupation since 1917. French claims to sovereignty effectively ceased with the Japanese invasion in 1939 and no attempts were made to reassert them, even at the 1951 San Francisco Peace Conference, where France signed the treaty without reservations. Vietnam was also represented at the peace conference and affirmed sovereign control over the Spratly archipelago. The claim passed uncontested at the conference, a fact which Vietnam later argued as universal recognition of the Vietnamese claim, despite immediate and strong rebuttal of the Vietnamese claim by the PRC, which was not represented at the peace conference.<sup>29</sup>

In June 1956 when the Philippines first laid claim to the Spratlys, the Republic of South Vietnam (RVN) protested, thereby reaffirming Vietnamese ownership of the Spratlys. On October 22, 1956, the islands were assigned by the RVN to Phuoc Tuy Province for

governance.<sup>30</sup> The government of North Vietnam (NVN) supported Chinese ownership of the Spratlys (the PRC was then a strong ally), going against the RVN claim, a position which was reiterated by the NVN prime minister in 1958.<sup>31</sup>

Vietnamese activity in the Spratlys was nonexistent for the next 15 years, as all energies were focused on the civil war. In September 1973, the RVN incorporated 11 islands into Phuoc Tuy Province and occupied five. In April 1975, Saigon surrendered and the reunified Vietnam reasserted sovereignty claims to the entire group, despite the earlier NVN support for the PRC's claim, thereby greatly contributing to the deterioration of relations between the two countries.<sup>32</sup>

The Vietnamese have continued to maintain precarious garrisons on up to 22 features in the Spratlys, supporting a claim to effective occupation of part of the Spratly archipelago since 1973.

*Comment.* The Vietnamese historic ownership claim appears weak as significant gaps in sovereign control are apparent before and during French occupation of Vietnam. France specifically stated that annexation of the Spratlys in 1933 was never ceded to Vietnam. North Vietnamese support for Chinese sovereignty claims against South Vietnam in 1956 and 1958, followed by a subsequent reversal of that position in 1975, further weaken the Vietnamese historic case. The current government of Vietnam is a successor to the NVN government, not the RVN; therefore effective concession to the Chinese in 1956 would appear binding. Notwithstanding these deficiencies in its historic case, Vietnam has effectively occupied numerous Spratly islets and other insular features since 1973, and this may give more recent claims some validity.

### *The Philippines*

The Philippine claim to most of the Spratly Island archipelago is based upon the "discovery" of several islands, then asserted to be "terra nullius," by a Filipino businessman and lawyer, Tomas Cloma. In 1947 he claimed to have discovered a group of unoccupied islands, and in May 1956 he proclaimed a new state called "Kalayaan" (Freedomland), declaring himself to be the chairman of the Supreme Council of the Kalayaan State. This declaration revived international interest in the Spratlys, invoked numerous diplomatic protests, and incited ship visits to the area by several navies. Cloma established small settlements on a number of islets, but only remained for a few months.

The Philippine government did not fully support Cloma's claim officially, remaining vague and noncommittal. An assertion was offered that the Kalayaan State and the Seven-Island group, known internationally as the Spratlys, were separate. The Philippine government argued that Kalayaan territory was considered "terra nullius" after the 1951 San Francisco Peace Treaty, which left the Seven-Island group Spratly Islands de facto under the trusteeship of the Allied Powers.<sup>33</sup>

In 1955, the Philippines declared straight baselines around the Philippine archipelago but made no mention of the Kalayaan State. ROC artillery fired upon a Filipino fishing vessel from Itu Aba Island in 1971, which generated a Philippine government protest, the legal grounds of which included: (a) the Philippines had legal title to the island group as a consequence of Cloma's occupation; (b) the Chinese had occupied some islands, which were de facto under trusteeship of the World War II Allied Powers, a fact that precluded the garrisoning of the islands without the Allies' consent; and (c) the Spratly group was within the archipelagic territory claimed by the Philippines. In 1974, Cloma transferred ownership of Kalayaan to the Republic of the Philippines.<sup>34</sup> In June 1978, President Marcos decreed that the Kalayaan Island Group was part of Philippine

sovereign territory and a distinct and separate municipality of the province of Palawan. A 200-nautical-mile EEZ, extending from the territorial sea baselines, was also declared.<sup>35</sup>

The Philippine claim persists and some drilling activity has been conducted in the region with limited results. Eight Spratly islands are occupied by Filipino personnel.

*Comment.* The Philippine claim has little credence in international law where the independent activities of individuals is given little value. There is a distinct and deep trough between the Philippine archipelago and the Spratlys, so while a 200-nautical-mile continental shelf claim could be sustained under Article 76 of the 1982 LOS Convention, a 350-nautical-mile claim could not. Such a claim would include part of the east Spratly area, but would fall well short of the current claim. The Philippines does not assert a historic connection, and the assertion that the islands had been abandoned is subject to dispute by Vietnam, the PRC, and Taiwan. One observer has described the Philippine action as “creeping annexation.”<sup>36</sup>

### *Malaysia*

Malaysia claims the southern part of the Spratlys. The Malaysian claim is based upon geography and uses the provisions of the 1982 LOSC on the continental shelf as justification. Malaysia promulgated a continental shelf act in 1966 that closely follows the provisions of the 1958 Geneva Convention on the Continental Shelf. The Malaysian claim to the southern Spratlys coincided with the issuing of the Malaysian Map 1979, which defines the Malaysian continental shelf area. Malaysia has declared sovereign jurisdiction over all islands and atolls on the prescribed continental shelf on the theory that the 1958 Geneva Conventions on territorial waters and continental shelf boundaries and LOSC support such an assertion.<sup>37</sup> Malaysia proclaimed an EEZ Act in 1984, but has not yet published an official map showing the coordinates of these delimitations, nor have baselines yet been published.<sup>38</sup>

The Malaysians have employed an inverse application of the continental shelf (LOSC Article 76) provisions, which define the legal continental shelf as “the submerged prolongation of the land mass of the coastal State, [which] consists of the sea-bed and subsoil of the shelf, the slope and the rise.”<sup>39</sup> There is no reference to, or provision for, islands, rocks, or other obstacles on the continental shelf that rise *above* sea level. Malaysia has asserted that ownership of the continental shelf extends to the off-lying obstacles thereon and has claimed a 12-nautical-mile territorial sea around Swallow Reef and Amboyna Cay. These features have been classified by Malaysia as islands under LOSC Article 121(1).

Malaysia has garrisoned troops on three insular features in the southern Spratlys since 1983–1986, in order to reinforce claims of effective sovereign control, and is reported to have established a holiday resort on one islet. Paradoxically, the coastal state is not required to display any specific form of control over the continental shelf in order to meet the ownership provisions of LOSC Article 77.<sup>40</sup>

Malaysia and the Philippines have held frequent bilateral talks since 1988 in an attempt to find a solution to their overlapping claims to the Spratlys, but to no avail.<sup>41</sup> Malaysia has not been involved in negotiations with the other claimants, except for as-yet-unproductive negotiations with Brunei, over delimitations of respective continental shelf boundaries.

*Comment:* The Malaysian claims make the greatest reference to contemporary law of the sea concepts. While exhibiting broad compliance with several key provisions on the continental shelf and EEZ, the Malaysian claims also exhibit misuse of the LOSC

provisions in defining sovereign control over features on the continental shelf that rise above sea level. Malaysia's claims to sovereignty have no historical basis except recent "effective control" of three insular features, and must therefore be viewed on their merits in competition with other similar claims.

### *Brunei Darussalam*

Brunei is a small, oil-rich state that is already reaping great benefit from hydrocarbon deposits discovered close to its narrow coast. Brunei claims Louisa Reef, which is well south of the main Spratly archipelago, and which is counter-claimed by Malaysia only.

Brunei's claim is based upon delimitation of its continental shelf first established by Britain in 1954. The area claimed terminates at the 100-fathom line. In 1980, Britain issued a note to Malaysia proposing discussions on the seaward delineation of their adjacent maritime boundaries. After Brunei's independence in 1984, Malaysian and Brunei negotiations continued, but the issue of the ownership of Louisa Reef remains unresolved, as the claims are incompatible.

In 1988, Brunei issued a map displaying a continental shelf claim that extends beyond Rifleman Bank. The basis for this claim is not fully understood, but would appear to be based upon a 350-nautical-mile continental shelf interpretation. Should this be the case, this claim would exceed the stipulations of LOSC Article 76, since the East Palawan Trough terminates the natural prolongation of the continental shelf 60 to 100 miles off Brunei.

*Comment:* The Brunei claims are similar to Malaysia's and derive from its interpretation of LOSC. There are no attending island or territorial sea claims, so the whole basis is the continental shelf provisions (Articles 76 and 77). Brunei has indicated its readiness to invoke Article 83, which enjoins parties to refer to the International Court of Justice for a ruling if bilateral negotiations are unsuccessful. Unfortunately, the multilateral nature of the Spratlys dispute would render a bilateral solution to be of limited relevance.

## **Relevance and Utility of the Law of the Sea**

The major issue to be resolved in the Spratlys dispute is that of sovereignty over the various islands, islets, and cays of the archipelago. The 1982 LOSC is of little assistance, as it begins with an unstated premise that sovereignty of land territory is established prior to consideration of maritime issues. Application of the relevant articles in the convention, and possible involvement of the United Nations mediatory agencies established to assist in resolution of these disputes, can really only be of use once the sovereignty issues are resolved. Despite this underlying tenet, each of the protagonists makes some reference to the law of the sea in an effort to reinforce and justify its sovereignty claims. As stated earlier, while the LOSC is not yet in force, the navigation provisions are accepted as customary international law. Observations on the apparent strengths and weaknesses of the respective sovereignty claims, followed by consideration of those provisions of LOSC that are currently being utilized by the protagonists, or that could have relevance in future negotiations, are provided below.

### *Sovereignty and Law of the Sea Issues*

The historic sovereignty claims of the PRC, Taiwan, and Vietnam can generally be summarized as incomplete, intermittent, and unconvincing. None of the claims supports a

concept of “effective control, administration and governance” of sovereign territory. Permanent occupation by citizens of any state was notably lacking, and administration consisted primarily of lodging occasional diplomatic protests if another nation’s dalliance in the Spratlys was deemed to be too long. In reality, “transitory presence,” by passing mariners and itinerant fishermen, formed the bulk of the historic “occupation” of the Spratlys. Indeed, the uninviting geography of these insignificant insular features encouraged little else, until the prospect of hydrocarbons became apparent.

The first effective control of the Spratlys in modern times occurred with the Japanese invasion and occupation in 1939. Garrisons were established on some islands and regular naval patrols were conducted. The 1951 San Francisco Peace Treaty and the 1952 Japan-Taiwan Treaty offered ideal opportunities to allocate sovereign ownership, in a contemporary international law sense. However, few Asian powers were represented and therefore Asia had little influence on the drafting of the San Francisco Treaty. The Western powers had no interest in solving Spratlys ownership; they had far bigger and more pressing issues to deal with. Japanese claims, and any prior French claims (and related Vietnamese claims that purportedly followed from the French colonial period), effectively lapsed.

Taiwan appears to have effectively controlled and administered Itu Aba islet between 1946 and 1950 and from 1956 onward. This control did not extend to other features of the Spratlys, and occupation by other states proceeded unchallenged by Taiwan. Island status for Itu Aba is consistent with LOSC Article 121 (Regime of Islands), in that it is “naturally formed” and “above water at high tide.” It is unlikely, however, that the islet could “sustain human habitation or economic life of [its] own” and, therefore, while it would generate a territorial sea and a contiguous zone, the application of an EEZ or a continental shelf is less certain under Article 121.

Despite many years of asserting an ancient and unalienable right to the Spratlys, including territorial claims of legal sovereignty in declarations issued in 1958 and 1992 and many decades of diplomatic protests of the activities of other states in the area, the PRC appears not to have effectively controlled any part of the Spratlys until 1988. PRC occupation and control of several insular features has been continuous since then. However, photographs of PLA-N troops standing thigh deep in water, guarding some of the claimed territory,<sup>42</sup> brings to question LOSC Article 13 on low-tide elevations and Article 121 on islands. Such features do not qualify as islands nor are they “low-tide elevations” within the meaning of the convention. To qualify as the latter, they must be “at a distance not exceeding the breadth of the territorial sea from the mainland or an island,” and the nearest PRC island (Hainan) is 900 miles away. The PRC case appears to be legally weak but cannot be ignored because of China’s great power status, combined with a recent, persistent physical presence in the Spratlys.

Vietnam has effectively controlled many insular features in the Spratlys since 1973. The Vietnamese claim is weakened, however, by lack of support from the French and inconsistent policy stances on PRC claims by North Vietnam before and after the Vietnam War.

Vietnam may have a legitimate continental shelf claim to the western part of the Spratly area. The continental shelf extending south and east from the Mekong delta area is relatively shallow and appears to be a “natural prolongation” of the land territory, as prescribed in LOSC Article 76(1). Indeed, the sedimentary deposits that formed this area stemmed from the Mekong River outflow and another great river that was submerged about 10,000 years ago.<sup>43</sup> A continental shelf claim that extends to 350 nautical miles could be justified under LOSC Article 76(5). Reference to a Vietnamese continental

shelf claim was not found in research for this article, although the grounds would appear to be at least as strong as the Malaysian claim.

The Philippines has effectively controlled some Spratly insular features since 1978, when the Kalayaan State was declared sovereign territory and troops were positioned. Article 48 of LOSC permits an archipelagic state, such as the Philippines, to extend an EEZ and a continental shelf from its archipelagic baselines. A Philippine continental shelf claim could not be legitimately extended beyond 200 nautical miles as the East Palawan Trough breaks the natural continental shelf 60 to 100 miles off Palawan Island (Article 76(1)). The Philippines has not yet advanced such a claim, which could help legitimize access to the seabed and subsoil in the eastern Spratly area. This option would appear to be more plausible, internationally acceptable, and negotiable than the current position based upon the Cloma "discovery."

Malaysia's effective control of one insular feature commenced in 1983, followed by two others in 1986.<sup>44</sup> Only one of these features, Swallow Reef, is also claimed as an island. The other two features are defined as low-tide elevations, but are beyond the territorial sea of the mainland and therefore cannot form the basis for an extension of the territorial sea (Article 13). While Swallow Reef may satisfy the Regime of Islands (Article 121), the ability to "sustain human habitation or economic life of [its] own" is doubtful. Malaysia does not claim an extension of the continental shelf or EEZ based on this feature.

Amboyna Cay, the other feature for which Malaysia claims a 12-nautical-mile territorial sea, raises effective control questions. A Vietnamese garrison was reputed to have been established on Amboyna Cay several years before announcement of the Malaysian claim and remains to the present. The legal efficacy of the Malaysian assertion must be jeopardized by this prolonged occupation by another state.

Malaysia's continental shelf claim would appear to have partial legitimacy in international law. The claim extends 200 nautical miles from the coast of Sabah, taking account of the East Palawan Trough, in compliance with LOSC Article 76(1). East Palawan Trough shoals and ends northwest of the Brunei/Sarawak border. The seabed is then relatively flat and shallow and could be adjudged a "natural prolongation" of Sarawak. A 350-nautical-mile continental shelf claim could be advanced by Malaysia under Article 76(5), delineated by straight lines as prescribed in Articles 76(4) and 76(7).

Malaysia's reverse sovereignty claim over features rising above sea level from the continental shelf is not sustainable on the basis of the law of the sea. Such a provision does not appear in LOSC and it is most unlikely that the drafters intended or envisaged such an inverse and incongruous interpretation.

Brunei's claim to the Louisa Reef area would appear to be consistent with the provisions of LOSC Article 76(1), subject to satisfactory resolution of a delimitation agreement with Malaysia, as prescribed by Article 83. While Louisa Reef is within 200 nautical miles of its coast, Brunei recently laid claim beyond Rifleman Bank, which lies approximately 250 miles off the shore. A 350-nautical-mile continental shelf claim would appear excessive, since the natural prolongation of the continental shelf is broken by the East Palawan Trough, 60 to 100 miles off the coast.

### *Semi-Enclosed Sea*

Definition of the South China Sea as a semi-enclosed sea, under LOSC Article 122, has been mooted as a possible avenue for resolution of the conflict. The northern and southern extremities of the South China Sea are "connected to another sea or ocean [the

Pacific and Indian oceans] by a narrow outlet [Malacca, Sunda Straits and straits between Taiwan, PRC and Philippines]”, is “surrounded by two or more States,” and will ultimately “consist . . . primarily of the territorial seas and EEZs of two or more coastal states.” Article 123 urges bordering states to cooperate in the “coordination” of resource management, environmental preservation, and scientific research.

It is by no means convincing, however, that the geography of the South China Sea meets the criteria for a semi-enclosed sea. The northern approaches do not easily fit the description of “narrow outlets.” A semi-enclosed sea definition could nevertheless conceivably provide the catalyst to promote cooperation and coordination of the management of resources in the South China Sea. China has already hinted at putting aside the sovereignty issue to allow the mutually beneficial development and exploitation of resources.<sup>45</sup>

Exactly how a six-state, semi-enclosed sea management organization would function effectively and fairly is difficult to conceptualize, but so is resolution of the current impasse, short of armed conflict. Such a concept may, of course, impact upon the freedom of the seas of other states, which would require close examination.

The current territorial claim situation is exceptionally complex and appears insoluble. Declaration of the South China Sea as a semi-enclosed sea could further cloud the situation and would require very careful investigation and consultation before serious consideration. A semi-enclosed sea or any similar resource coordinating regime not entirely dependent upon resolution of sovereign control may, however, offer a means of developing and managing a workable compromise.

### *Settlement of Disputes*

LOSC Article 279, although yet to come into force, follows the Charter of the United Nations in urging “States Parties” to settle disputes by peaceful means. Part XV of the convention provides guidance and offers a number of fora to settle disputes on the law of the sea. Article 298 specifies optional exceptions to “Compulsory and Binding Decisions” over interpretation of convention provisions. Parties can “declare in writing” that they do not accept rulings on disputes involving delimitations of EEZs (Article 74) and continental shelves (Article 83) where the dispute involves “concurrent consideration of any unsettled dispute concerning sovereignty or other rights over continental or insular land territory [which] shall be excluded from such submissions.” This article effectively rules out the jurisdiction of convention instrumentalities in the Spratlys dispute, until territorial claims are resolved or put aside.

### **Conclusion**

The Spratly Islands dispute is complex and has the potential to degenerate into armed conflict. The stakes are high due to strategic location and potentially rich hydrocarbon deposits. There is little commonality among the six claimants’ positions, and a mutually acceptable basis for compromise is difficult to identify. Sovereign territorial issues require resolution and this is beyond the scope of the law of the sea. Some aspects of the 1982 convention are relevant and are called upon variously by the protagonists to support arguments for territory. Overall, the Spratly Islands situation highlights the limitations of the law of the sea, and international law in general, to provide a mechanism and framework for resolving the dispute.

Since 1988, the PRC appears to be proceeding cautiously in the South China Sea so

as not to further alarm its small, but economically significant South-East Asian neighbors. Patience and conciliation are being urged without tangible evidence of the willingness to compromise. The players are far from finding a common playing field or an agreed game, which first must be achieved before interpretation of the rules can be considered.

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## Annex

### *The Spratly Islands—A Recent Chronology*

- 1887 Treaty between China and France setting Tonkin Gulf boundary on meridian 108 degrees 03'E longitude.
- 1933 French announce occupation of nine Spratly islands.
- 1939 Japanese invade the South China Sea islands, build naval base on Itu Aba.
- 1946 ROC forces temporarily occupy Itu Aba.
- 1947 ROC government announces claim to South China Sea islands, including Spratlys.
- 1950 ROC forces withdraw to Taiwan.
- 1951 San Francisco Peace Conference. Japan renounces claims to South China Sea islands; neither China nor Taiwan in attendance; Vietnam announces claim; China reaffirms claim.
- 1952 Bilateral peace treaty between Taiwan and Japan.
- 1956 Tomas Cloma of the Philippines claims Kalayaan for private colonization scheme.
- 1956 Vietnam reasserts claim to Spratly Islands.
- 1956 Philippines declares Spratlys area res nullius, subject to exploitation by any party.
- 1956 ROC forces reoccupy Itu Aba.
- 1958 Chinese territorial sea law names Nansha (Spratly) Islands.
- 1968 Philippines occupies three Spratly islands.
- 1973 South Vietnam occupies five Spratly islands.
- 1974 Philippines makes formal claim to Kalayaan (Spratlys).
- 1975 Hanoi takes over Spratly islands occupied by South Vietnam.
- 1978 Philippines presidential decree annexes Kalayaan to Palawan Province.
- 1978 Philippines occupies another Spratly island.
- 1978 United Vietnam issues first of many reaffirmations of claim to Spratly Islands.
- 1979 Malaysia issues continental shelf declaration, claiming islands incorporated in it.
- 1980–1989 Philippines occupies four more Spratly islands.
- 1983 Malaysia garrisons one Spratly island.
- 1986 Malaysia occupies two more Spratly islands.
- 1987 China conducts naval maneuvers in the Spratlys.

- 1988 China occupies Fiery Cross Reef and five more Spratly islands.
- 1988 Vietnam occupies fifteen more Spratly islands.
- 1988 Chinese and Vietnamese forces clash near Chigua Reef.
- 1989 Vietnam builds platforms over Rifleman (Bombay Castle), Vanguard, and Prince of Wales banks.
- 1990 Indonesia hosts Bali workshop on Spratly Islands conflict management.
- 1991 Indonesia hosts Bandung workshop on Spratly Islands conflict management.
- 1991 Malaysia announces tourism and airfield development for Swallow Reef.
- 1992 Philippines announces naval and air build up of its eight occupied Spratly islands.
- 1992 New Chinese territorial sea law names South China Sea islands again.

**Annex 703**

Zhinguo Gao, "The South China Sea: From Conflict to Cooperation?", *Ocean Development and International Law*, Vol. 25, No. 3 (1994)



## The South China Sea: From Conflict to Cooperation?

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*This article provides a comprehensive review of the latest developments with respect to the Spratly Islands disputes in the South China Sea. By studying the national policies behind the evolution of these events it examines in particular some of their implications on regional relations and the future of the South China Sea, with special emphasis on China's policy toward the issue.*

Following the cold war, the world generally has been moving in a direction of peace and cooperation. However, there are exceptions to this favorable development. A particular area for potential conflict is the South China Sea, one of the largest marginal seas of the oceans and some of the most troubled waters in the world. This article first reviews the latest developments with respect to the Spratly Islands disputes in the South China Sea, and then attempts to articulate some of their implications on regional relations and the future of the South China Sea, with particular emphasis on China's policy toward the disputes.

### Recent Developments in the South China Sea

Historically, there have been few territorial disputes between the coastal states in the South China Sea except for foreign occupations of some of the islands during World War II. The contest for the South China Sea is of relatively recent origin. Motivated by their security concerns and economic interests, the coastal states have made frequent claims of sovereignty over the South China Sea islands since the late 1960s and early 1970s. These overlapping claims—which mushroomed after the Vietnam War, persisted throughout the 1980s, and escalated after the resolution of the Cambodia issue—eventually have culminated in today's military partition of the Spratly Islands archipelago.

A detailed historical examination of the history of the South China Sea disputes has been well covered elsewhere and transcends the scope of this article.<sup>1</sup> Rather, the following discussion provides a brief review of the latest developments in the region.

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### *Military Occupation of the Spratly Islands*

Although the disputes over ownership of the Paracel and Spratly Islands archipelagoes have their roots in history back to time immemorial, the battle to control these islands did not begin until the Vietnam War had wound down and the first oil crisis had shocked the world. The South China Sea has since become some of the most troubled waters in the world.

Currently six states and parties claim title to all or part of the South China Sea islands. China, both mainland and Taiwan, and Vietnam have claimed the whole of the Paracel and Spratly Islands archipelagoes as their territory. The Philippines, Malaysia, and Brunei also have made claims (all of which are of recent origin) to a portion of the Spratly Islands. All but Brunei have maintained a military presence in the Spratly Islands archipelago.<sup>2</sup>

Taiwan has occupied the largest island of the Spratly Islands group, Itu Aba (Taiping Tao, in Chinese), since the end of World War II, and a force of 600 troops has been maintained on the island. China sent its marines to garrison six islets, including Fiery Cross Reef, Johnson Reef, Collins Reef, and Gaven Reef (Yongshu Jiao, Chigua Jiao, Guihan Jiao, and Nanxuen Jiao, in Chinese, respectively), after a brief military clash with Vietnam on March 14, 1988. It also landed troops on at least one more atoll in the Spratly group in 1992. Currently, China has a total of 260 troops stationed on these islets.<sup>3</sup>

Moreover, in 1992 China passed its first territorial sea and contiguous zone act to legalize its claim. Article 2 of this law effectively defines the Paracel and Spratly Islands archipelagoes as China's territory.<sup>4</sup> A few remarks on the Chinese maritime boundary claim in the South China Sea are necessary since there is some misunderstanding of this line and the newly promulgated territorial sea law by a number of outside observers who believe that China claims virtually the whole area as its territorial waters.

A boundary line encompassing most of the waters of the South China Sea can be found in all modern Chinese maps (see Figure 1). The line is referred to in Chinese literature as the "traditional maritime boundary line," "the southernmost frontier," "territorial limit," and so forth, but the legal nature of the line seldom has been clarified. A careful study of Chinese documents<sup>5</sup> reveals that China never has claimed the entire water column of the South China Sea, but only the islands and their surrounding waters within the line. Thus the boundary line on the Chinese map is merely a line that delineates ownership of islands rather than a maritime boundary in the conventional sense.

Vietnam began to take possession of the Spratly Islands in 1975, when it took 13 islands in the Spratly Islands group. It occupied 3 more islands—Prince of Wales Bank, Vanguard Bank, and Bombay Cay (Guangya Tan, Wanan Tan, and Pengbobao Jiao, in Chinese, respectively)—in September 1989,<sup>6</sup> and took at least 5 more atolls thereafter. At present, Vietnam has 600 soldiers deployed on these islands.<sup>7</sup>

The Philippines began to annex the Spratly Islands in 1970 and has stationed over 480 marines on nine of them.<sup>8</sup> The islands are fortified with heavy artillery, and have radar, a weather station, and ammunition storage.

Malaysia is chronologically the last claimant by virtue of military occupation. It landed troops on Swallow Reef in late 1977 and now occupies 3 of the 12 islets claimed by it, with a total force of 70 troops.<sup>9</sup>

Brunei is the only claimant who does not have a military presence in the Spratly Islands. In fact, Louisa Reef, claimed by Brunei, already has been taken by Malaysia.

The military occupation of the Spratly Islands is summarized in Table 1. As is clear

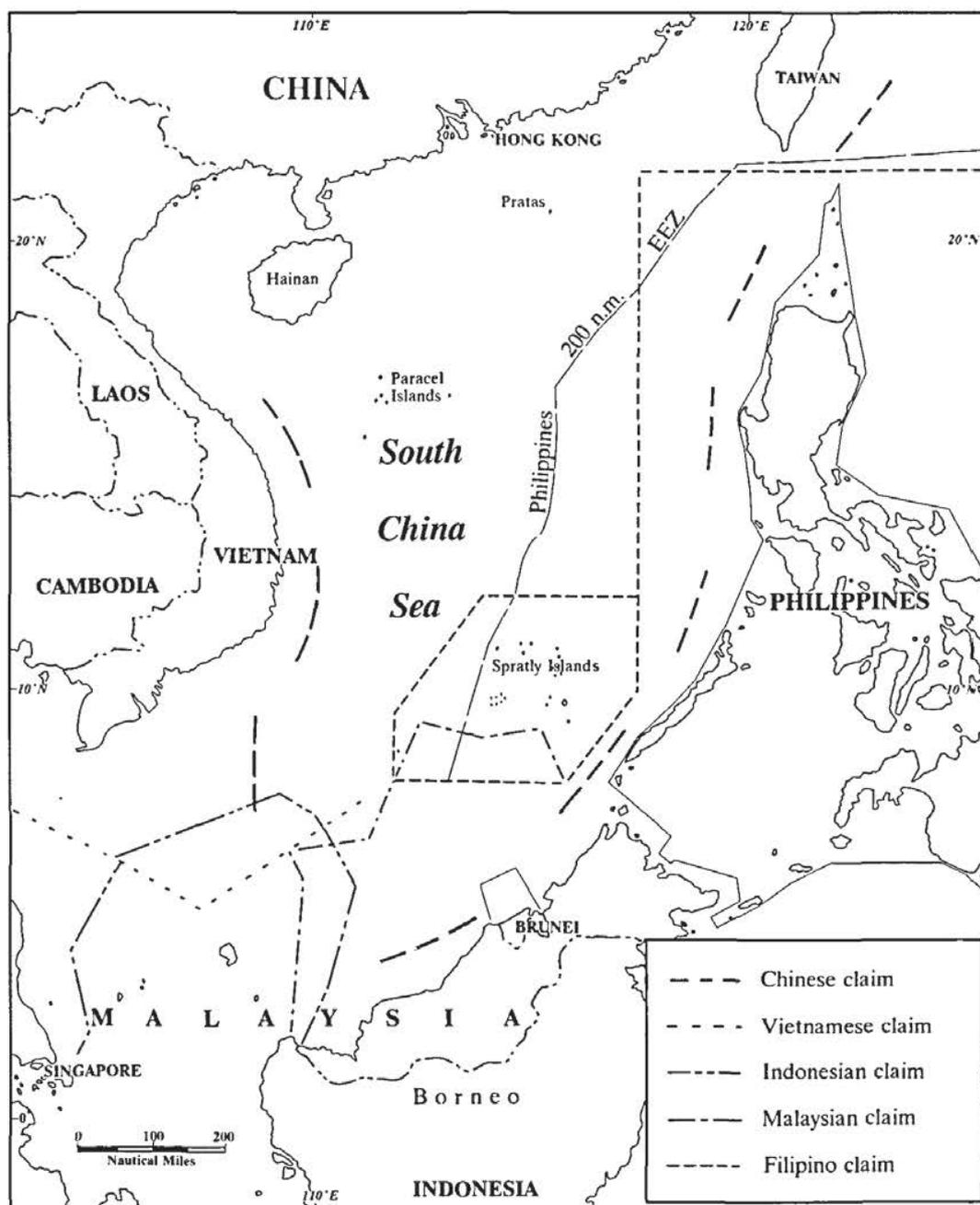


Figure 1. Unilateral claims in the South China Sea.

from the table, at least 42 of the 51 major islands in the Spratly Islands group have been occupied by the claimants.

### *Regional Arms Buying Spree*

In order to back up their territorial claims and military occupation, and perhaps to enhance bargaining positions in future negotiations, the coastal states of the South China Sea in general and the claimant states in particular have actively engaged in building up their military forces, particularly their naval and air force capabilities.

**Table 1**  
Military Occupation of the Spratly Islands

Country	Beginning of Occupation	Number of Islands	Number of Troops
China			
Mainland	1988	9	260
Taiwan	1945	1	600
Vietnam	1975	21	600
Philippines	1970	8	480
Malaysia	1977	3	70
Brunei		0	0
Total		42	2,010

*Source:* Compiled by the author.

As its economy grew, China began to increase its military spending. Its defense budget rose 15 percent in 1991 and 12 percent in 1992 to U.S.\$6.7 billion, or 9 percent of the 1992 annual budget expenditures of U.S.\$71 billion. In 1993, its military spending is expected to reach more than 10 percent of the year's budget.<sup>10</sup> A large portion of the increasing budget goes to the Chinese navy, which is the world's third largest navy and has the third largest submarine force of 181 vessels (five of which are nuclear equipped). As a result the Chinese navy has been acquiring a new generation of naval equipment and building up its special combat forces, including the country's 6,000 marines. China's recent acquisition of aerial-refueling technology, the newly completed military air base on Woody Island in the Paracel Islands group, and the purchase of a squadron of 24 long-range Suknoi-27 fighters from Moscow have enabled China to extend its air cover over the Spratly Islands area, some 1,000 kilometers away from Hainan Island.

Taiwan also has been increasing significantly its military spending in recent years. In addition to its active purchasing of jet fighters from France and the United States and submarines from the Netherlands, Taiwan signed a contract with the United States in July 1992 to rent three modern cruisers, which joined its navy in September 1993. It also is reported that the United States has agreed to lease six to nine more warships to Taiwan,<sup>11</sup> and Taiwan is now considering the possibility of building a naval and air base on Itu Aba Island.<sup>12</sup>

Significantly, nearly all of the other Southeast Asian nations hurriedly are making an active effort to beef up their modest naval and air force capabilities.<sup>13</sup> In its largest purchase in recent years, Indonesia bought 39 aging naval vessels (16 corvettes, 9 mine-sweepers, and 14 landing craft) from the former East Germany in early 1993. Other member states of the Association of Southeast Asian Nations (ASEAN) also have made recent purchases. Malaysia, for example, has ordered two frigates from Britain and signed an agreement with a Swedish shipyard for two modern submarines. The country also announced in July 1993 its plan to purchase 18 MiG 29 fighters from Moscow and 8 McDonnell Douglas F/A 18D strike aircraft from Washington at favorable prices.<sup>14</sup>

Singapore has 4 minehunters on order for 1994, and the first of 12 new large and fast patrol boats is also due for 1994 delivery to join its 50-ship navy, which includes missile corvettes, landing ships, and patrol planes.

The Philippine government has made the modernization of its navy a top military

priority and plans to replace most of its obsolete coastal defense boats with sophisticated missile-equipped vessels.<sup>15</sup>

Vietnam's ambition for any significant upgrading of its naval capabilities has been constrained at present, largely by its acute economic problems. The country has tried to compensate for the inability to upgrade its navy by beefing up its garrisons on some of the islands, including purchasing tanks to reinforce its ground occupation. In addition, Vietnam is likely to increase the number of islets under its occupation.

The reasons behind these countries' attempts to strengthen their military forces in the region vary. Some states want to transform their navy from brown-water to blue-water. Others are trying to arm themselves to resist a possible regional threat. Perhaps a few of them are doing it just to keep up with their neighbors. For whatever reasons, if continued and unchecked, this regional arms buying spree may lead to military conflict in the future.

### *Controversial Resources Development*

There may be many causes for the buildup of tension in the South China Sea over the past two decades, but the potential oil-rich seabed obviously is one of the most important considerations sparking the territorial claims. Parts of the continental shelf with the best oil prospects offshore China, the Philippines, Malaysia, Brunei, Indonesia, and Vietnam have been or are under lease to foreign oil companies. The South China Sea today is one of the most productive offshore areas in the world. Since 1950, 29 oil fields and 4 gas fields have been developed in the South China Sea.<sup>16</sup>

Prior to 1980 China's interest in the South China Sea was largely political and geostrategic; namely, to prevent hegemony and to enhance national security. The military operations by China against South Vietnam in the Paracel Islands archipelago in 1974 were aimed primarily at breaking up the Soviet encirclement of China and safeguarding national security.<sup>17</sup>

After the introduction of the open door policy in 1978, China began to focus on its economic construction. The offshore petroleum industry was at the forefront of economic reform as China opened its continental shelf from the Bohai Gulf in the north to the Beibu (Tonkin) Gulf in the south (except the East China Sea) to foreign exploration in 1979. When the Sino-foreign seismic survey agreements in the South China Sea were announced in 1979, Vietnam, which also laid sovereign claim over the same area, protested the proposed surveys as "a brazen violation of the territorial integrity of Vietnam and its sovereignty over its natural resources" and further issued a warning to foreign oil companies involved that they must "bear the consequences" of their actions.<sup>18</sup>

The controversy between China and Vietnam over offshore oil exploration dragged on in the intervening years and erupted again in 1992 when the U.S. Crestone Energy Company signed an offshore contract with China National Offshore Oil Company (CNOOC) that covered an area of 25,155 square kilometers in the Vanguard Bank area (Wanan Tan, in Chinese) on May 8 of the same year. It is reported that China pledged to use its full naval force if necessary to protect Crestone's concession.<sup>19</sup> The Chinese leasing is believed to be a reaction to the fact that Vietnam has delineated all the offshore area it claims into offshore concession blocks. The Vietnamese government protested in a strongly worded statement on May 16, 1992:

It is clear that the agreement between the Chinese and U.S. company has seriously violated Vietnam's Sovereign Rights over its continental shelf and exclusive economic zone. . . . [T]he Socialist Republic of Vietnam demands

that the Chinese side stop immediately the illegal exploration and exploitation arrangements with the Crestone company in the area of Vietnam's continental shelf.<sup>20</sup>

In the wake of Washington's relaxation of its trade embargo on Vietnam in early 1993, foreign oil companies in general and U.S. firms in particular rushed to Hanoi to obtain deals to explore Vietnamese waters. It has been reported that two tracts close to the Crestone concession (Dai Hung and Thanh Long) soon may be leased to international oil companies.<sup>21</sup> Among the reasons for Vietnam to court foreign companies is its expectation that concessions to U.S. oil companies would provide "implicit diplomatic insurance against China."<sup>22</sup> In response to this latest proposed leasing China sent a seismic survey vessel on May 5, 1993, into Vietnam's Block 5-2, which is under lease to British Petroleum (BP) and Norway's Statoil. In a press conference, a Chinese Foreign Ministry official stated that "the seismic operations conducted by the Chinese survey vessel in the waters off the Spratly Islands are normal scientific exploration activities."<sup>23</sup>

The deteriorating situation is frustrating for both sides. While Vietnam accuses China of going back on its word to shelve disputes in favor of joint development, China interprets its movement as a retaliatory action. "We don't want to create tension, but we do have to take into account the actions of neighboring countries," a Chinese Foreign Ministry official stated.<sup>24</sup> Any offshore development activity by either side is considered as a provocation by the other side. In a spiraling situation like this, it is difficult to establish which side is responsible for the frustrations.

In another attempt to reinforce its territorial claim over the disputed Spratly Islands, the Hanoi government introduced in September 1993 a 3-year tax holiday for companies and individuals who are willing to invest in and export sea products from the archipelago.<sup>25</sup> This recent Vietnamese move is sure to trigger off another round of Chinese retaliation.

### *Regional Dialogue on the Spratly Islands Disputes*

With the resolution of the Cambodia issue in 1991, the countries in Southeast Asia have increasingly focused their attention on the South China Sea as a potential source of conflict. Massive overlapping jurisdictional claims, continued military occupation of the islands, disproportional military spending, and periodic leasing of the disputed areas have all combined to aggravate the buildup of tensions in the region. These latest developments have rattled Asia and have drawn the attention of some outside powers who have an interest in the South China Sea. Moreover, fear is rapidly growing both in and out of the region that China, as the political and military power in Asia, will come to fill the power vacuum created by the reduction of the U.S. and former Soviet presence in the region.

Despite the deteriorating situation, the countries in the South China Sea region have not given up hope for a peaceful resolution of the Spratly Islands disputes. Their efforts have culminated in a series of informal or semi-formal regional meetings over the past 4 years.<sup>26</sup> The first step in the process was the meeting initiated by Indonesia on "Managing Potential Conflicts in the South China Sea" held in Bali in January 1990. This first meeting was limited in the sense that it was attended only by the six ASEAN states, three of which—Malaysia, Brunei, and the Philippines—have claims to parts of the Spratly Islands.

The second meeting, which was held in Bandung in July 1991, made some improvements over its predecessor. First, the conference was expanded to include, in addition to

the ASEAN states, China, Taiwan, Vietnam, and Laos. Second, the participants of the conference consisted not only of scholars but also of officials from the foreign ministries of all the countries involved (except Taiwan), albeit in their private capacities. More importantly, the participants agreed during the meeting that

[a]ny territorial and jurisdictional dispute in the South China Sea area should be resolved by peaceful means through dialogue and negotiation. . . . [T]he parties involved in such dispute are urged to exercise self-restraint in order not to complicate the situation.<sup>27</sup>

The third meeting took place at Yogyakarta in July 1992 and was attended by 58 participants from the countries in the South China Sea region. This conference made further progress and the participants agreed in principle that “joint development” should be used as a peaceful means to resolve the current dispute in the South China Sea.<sup>28</sup>

The fourth informal workshop was conducted at Surabaya, Indonesia, in August 1993. At this meeting Indonesia proposed to start formal negotiations for a joint development program, but some participants disagreed with the idea, saying that the time was not yet ripe for such talks. It seems obvious from the workshop series that more confidence-building measures need to be taken before any formal negotiation process is implemented.

Apart from these informal commissioned regional workshops, the 1992 annual conference of ASEAN foreign ministers in Manila also made the South China Sea a high priority. China and Russia were invited to attend the conference as guests for the first time in ASEAN’s 25-year history.<sup>29</sup> The Spratly Islands disputes were dealt with by the conference in a separate communique, a “Declaration on the South China Sea,” which calls on the states involved to

resolve all sovereignty and jurisdictional issues pertaining to the South China Sea by peaceful means, without resort to force; . . . exercise restraint with the view to creating a positive climate for the eventual resolution of all disputes; [and] explore possibility of co-operation in the South China Sea.<sup>30</sup>

It should be noted that China held its first symposium on the South China Sea islands on September 19, 1991, in Haiko, Hainan Province. This was a quasi-subregional meeting attended by some 70 people, including representatives from Taiwan and Hong Kong. The participants discussed a wide range of issues (such as marine environment, meteorology, navigation, transportation, and sovereignty) and proposed that “the South China Sea issue be resolved by peaceful means with utmost efforts, and the resources in the South China Sea be jointly developed on condition that China’s sovereignty is recognized.”<sup>31</sup> Taiwan also held its first large symposium on the South China Sea in September 1993. Spratly Islands nationalism still runs high on the island and the conference arrived at the conclusion that international cooperation can be arranged only if under the principle that the Chinese sovereignty is not affected.<sup>32</sup>

The four Indonesia-brokered informal or semi-formal workshops represent a regional effort to install peace and cooperation in the South China Sea. They were designed to bring all the contestants together for the first time in over 20 years, perhaps even in history, to discuss nonpolitical issues in the areas of the environment, navigation, pollution control, marine research, and possible ways to cooperate. Although the workshops have not produced any practicable results, their political significance cannot be over-

looked. The important contribution of these workshops is that they have begun a long-overdue process to provide a path from no action, confrontation, and military conflict to dialogue, cooperation, and eventual resolution. More importantly, they have fostered a higher degree of regional recognition of joint development as a useful approach to the current impasse and therefore can be viewed as the first milestone in the search for a peaceful settlement of the Spratly Islands disputes.

### *Regional Recognition of Joint Development*

Throughout the years, various proposals have been recommended for a Spratly Islands solution, such as joint administration on a trusteeship basis,<sup>33</sup> a condominium system,<sup>34</sup> the Antarctic Treaty model,<sup>35</sup> and joint development.<sup>36</sup> Among these recommendations, joint development appears to be the most feasible arrangement acceptable to all parties concerned.

Indonesia concluded with Australia the Timor Gap Treaty on joint development in 1989.<sup>37</sup> Malaysia has recently signed with Thailand a draft agreement on joint development in the Gulf of Thailand.<sup>38</sup> The Philippines and Malaysia agreed in their Treaty of Amity and Cooperation<sup>39</sup> to “share joint exploration, exploitation and development of overlapping maritime areas,”<sup>40</sup> and Vietnam has agreed with Malaysia to jointly develop the overlapping claim area between them.<sup>41</sup>

The concept of joint development of the disputed area also has been gradually endorsed by the Chinese government. During his visit to Singapore in 1990, Chinese Premier Li Peng announced for the first time that China would be putting aside its territorial claim for the present in favor of joint development of the disputed area. This policy was reiterated by Chinese President Yang Shankun during his ASEAN trip in 1992. While attending the ASEAN foreign ministers’ conference, China’s Foreign Minister Qian Qichen went on to elaborate: “China is in favor of shelving the matter of territorial sovereignty and concentrating on cooperative activities in the area; we have no interest in filling a perceived power vacuum in the region; instead, we want to pursue a peaceful solution towards the issue.”<sup>42</sup>

In addition, the principle of joint development has been well received at the regional level. At the Yogyakarta conference of 1992, for instance, the participants agreed that joint development of the South China Sea resources is a key to breaking the current impasse of the Spratly Islands disputes.<sup>43</sup>

It seems that the governments of the claimant states all have accepted the idea of joint development and there appears to have developed a regional consensus on the approach over the past 3 years. But the question still remains of how to put the principle into practice.

### **Some Implications of Recent Developments and New Directions in the South China Sea**

In the past many Americans and Europeans viewed Southeast Asia, including the South China Sea, as the backyard of Japan because of that country’s economic power and presence in the region. But the picture is now changing as China begins to loom above the horizon as another big economy.

China’s interest in the South China Sea before the 1980s was almost exclusively security oriented. Since then, however, there has been a major shift in the rationale for and emphasis of China’s policy from primarily a national security concern to principally

economic interests. The armed conflict between China and Vietnam in the Spratly Islands in March 1988 may be viewed as a turning point of this major policy shift. China's operation in the Paracel Islands archipelago against Vietnam in 1974 was essentially geostrategically motivated, but the battle of 1988 with Vietnam in the Spratlys was fought for economic reasons—that is, competition for ocean space and maritime resources. In short, China's position is heavily influenced by its overall open door and economic reform policy. Economic interest have been the major motivation for China's push through the South China Sea since the early 1980s, and it is the underlying driving force for its increasing assertiveness in the region.

China's recent assertiveness in the South China Sea is not without costs, however. First, it already has caused some concern in the region, and should China persist with its forward policy it will reinforce its neighbors' mistrust and misgivings toward China. Second, it is likely to force the ASEAN claimant states and Vietnam to establish a political defense coalition against China because they cannot compete with China individually. Third, it may trigger a revision by some states of the two-China policy, with the effect of embarrassing China by recognizing Taiwan. Fourth, it may introduce new factors into the geopolitics of the region, such as providing a pretext for Japan to rearm itself in order to protect its vital interests in the South China Sea. Last but not least, it may induce the host countries of overseas Chinese to adopt once again a hostile policy toward the overseas Chinese communities since the recent increasing investment by these communities in the motherland may be viewed as a contribution to China's assertiveness.<sup>44</sup>

Traditionally, China generally views territorial issues as bilateral questions and has never engaged in group discussions or submitted itself to international jurisdiction or arbitration. As a big power, it prefers a bilateral, subregional approach in dealing with international affairs. This is also true with respect to the South China Sea issue, for which China prefers bilateral negotiations and settlement to any kind of multilateral approach. The policy has been made clear on various occasions that “*China is willing to hold bilateral talks with the countries concerned to settle the disputes over the Spratly issue, but opposes the internationalism of the issue*” (emphasis added).<sup>45</sup>

In the past, China was reluctant to undertake even bilateral negotiations on border issues. It believed, perhaps misguidedly, that boundary delimitation would affect its friendly neighbor relations. In this context, China's recent initiative to resolve the maritime disputes in the South China Sea through “bilateral talks” demonstrates its pragmatic attitude and flexibility. Indeed, it perhaps should be viewed as an improvement over its rigid position prior to the 1990s. China's flexible attitude toward the Spratly Islands issue is viewed by some authorities as a “major concession” and other claimant states are encouraged to take advantage of China's flexibility to begin discussion on joint development.<sup>46</sup>

Nevertheless, it should be noted that China has been critically fine-tuning its policy toward joint development. Prior to 1993, it was explicitly stated that China was willing to put aside the question of sovereignty and jointly develop the resources in the disputed area. Since early 1993, however, it appears that the country has reformulated its position. In the Annual Work Report of the Chinese government to the National People's Congress (China's parliament), Premier Li Peng stated:

On the issue of Spratly Islands *whose sovereignty belongs to China*, our country puts forward the proposal of “shelving disputes in favor of joint development,” and is willing to work towards the long-term stability, mutual benefit and co-operation in the South China Sea region. (emphasis added)<sup>47</sup>

The emphasis on sovereignty means not only that China has backed away from its previous commitments, but now it also attaches to any joint development negotiation an important condition; that is, China's sovereignty over the Spratlys must be explicitly recognized.

From the foregoing discussion, it may be said that China's policy toward the Spratly Islands disputes in the early 1990s has remained largely unchanged or has become more sophisticated compared with that in the 1980s. China has simply adapted its policy to the changing circumstances. In this sense, China's flexibility to talk represents a concession only in procedure rather than in substance.

On the South China Sea issue, China has been plagued by three interrelated difficulties. Internally, China needs to coordinate and cooperate with Taiwan in order to form a united front against the other foreign claimants. But no breakthrough has been made in their relations and little can be expected to be achieved in the near future. Regionally, China is caught in a dilemma between, on the one hand, its desire to maintain friendly political relations with the Southeast Asian countries, and on the other hand, its ambition to press its territorial claims to the limit. Moreover it must guard against a possible coalition between Vietnam and ASEAN. Internationally, China faces the risk of possible confrontation with major outside powers such as the United States as it tries to maximize its access to marine resources in and its control over the South China Sea. Again at the international level, China perhaps should be on guard against a potential association of Japan, the United States, ASEAN, and, possibly, Vietnam when it goes too far in the South China Sea. These are the major limitations that must be taken into account by the Chinese policymaker.

Taiwan encounters almost the same difficulties as does the mainland, albeit to a lesser extent. As indicated, both mainland China and Taiwan recently have adopted similar policies toward the South China Sea disputes. The hard line they have taken not only reiterates China's sovereignty over the archipelago, but also makes the recognition of it a precondition for any joint development or international cooperation. The coincidence of their policy formulation is not surprising because, despite their endless political quarrels with each other, they share many things in common (such as culture, history, and tradition). It is perhaps a popular belief by many Chinese on both sides of the Taiwan Strait that "blood is thicker than water." Although a major improvement in overall relations between mainland China and Taiwan is not politically feasible at present, some tacit understanding, or even private unofficial cooperation, in areas where they have the same national interests can be expected between them. The South China Sea is probably one of the areas which will see some kind of implicit collaboration between the two sides.<sup>48</sup>

On the surface the current South China Sea imbroglio is a multilateral dispute, but in principle it is a bilateral one in the sense that it has been largely a creation of maritime competition by smaller neighboring states for ocean space and resources against China since the mid-1970s. Should mainland China and Taiwan stand shoulder-to-shoulder in the negotiation process, they will make a stronger case vis-à-vis other claimants. In fact, proposals such as "join hands by the two sides of the Taiwan Strait in defense of the South China Sea sovereignty" often have been voiced recently on both the mainland and Taiwan.<sup>49</sup> Such a likelihood cannot be ruled out in the South China Sea in the long run when the two sides eventually awaken from their battle of words to the importance of their accommodation.

Both mainland China and Taiwan are cautious about proposals to formalize the present multilateral workshop process. While the former wants to see neither internationalization nor regionalization of the issue—because internationalization means inevitable

introduction of outside powers into the geopolitical equation, and regionalization will result in a situation where China is far outnumbered by its rivals in the negotiation process—the latter's fear is different. It is concerned mainly about its potential exclusion from the official negotiations once the process is formalized. This partly explains why China favors a bilateral approach, or even the status quo, in the South China Sea for the time being.

Vietnam is another major rival in the South China Sea disputes. It has been the number one enemy of China since the mid-1970s for its pro-former Soviet Union stance and for its duplicity, ingratitude, and aggressive competition for the Spratly Islands as well as the Paracel Islands. Its territorial claims, which conflict with that of China in the South China Sea, have become the major obstacle to improved relations.

Enjoying very little sympathy both in the region and in the West, Vietnam's current strategy is to align with ASEAN in the hope that this linkage eventually would lead to the group's recognition of its territorial claim over the South China Sea islands, and that any attack on Vietnam in the Spratlys by China would be seen as a violation of the group interests as well.<sup>50</sup>

In pursuit of its Vietnam-ASEAN coalition strategy, Vietnam has openly supported a multilateral joint development scheme vis-à-vis China's bilateral position. Its joint development approach conforms with ASEAN's own position that all parties should put aside their sovereignty claims and look for avenues of cooperation. But it is still questionable whether the ASEAN countries would be willing, either collectively or individually, to confront China in this matter on Vietnam's behalf. ASEAN countries generally want to cooperate with China, not confront it.

In addition, Vietnam has appealed to the United States for assistance. A senior Vietnamese official has urged: "If the United States does not show some sign of support for the smaller countries on this issue, Vietnam will have no choice but to accommodate China."<sup>51</sup>

From a political and legal standpoint, introduction of a foreign power into a bilateral or regional dispute is not a good idea because to do so would complicate the issue and its process of resolution. During the 25th ASEAN foreign ministers' meeting, the Philippines tried to sell a similar idea; that is, that the South China Sea issue should be put before a United Nations international conference. This suggestion was resisted by the other ASEAN members. As a senior Malaysian official correctly pointed out, globalizing the issue could "open a Pandora's box."<sup>52</sup>

The United States presence in the South China Sea probably is viewed by some as a generally stabilizing influence on the Spratly Islands disputes. But the U.S. position on the South China Sea is that the United States makes no judgment on the merits of the claims, wants freedom of navigation to be preserved, and supports a peaceful solution of disputes.<sup>53</sup> Although the United States may tend to sympathize with such smaller claimants as Vietnam because of China's grandiose push through the South China Sea, it probably would not side with one claimant against another since such a move would not be in its best interests. It is relatively safe to predict that the U.S. policy toward the South China Sea will remain unchanged as long as its freedom of navigation and overflight in the area are not interrupted and threatened.

There is an interesting Asian phenomenon in terms of boundary issues. These countries seldom negotiate their boundary delimitations; that is, when they talk, they always beat around the bush. This is also the case with joint development in the South China Sea. The concept of joint development has been around for many years and has been well discussed at various workshops, but little progress has been achieved. While the

reasons for this are many, the lack of sincerity and genuine interest in joint development on the part of most, if not all, of the claimants is probably a major cause. For instance, although Vietnamese Premier Do Muoi has said that his government was “pleased” by the Chinese proposal on joint development of the overlapping claim areas, no substantive response has been made yet by Vietnam. Indeed, it is unlikely that Vietnam will abandon its superior military occupation in the Spratly Islands group to share resources with others. Likewise, other claimants may merely be paying lip service to the concept. If so, there is a real danger that the talks and the principle of joint development will be abused by the claimants to serve their own private interests.

As observed, informal regional meetings are fine at the outset of the process. They have, in fact, played an important facilitative role to elevate the idea of joint development to a higher degree of recognition and acceptance at the regional level. But the countries in the South China Sea cannot afford another 10 or 15 years to only talk about joint development. They need to put the theory into practice in order to reduce tension and prevent further conflict in the region.

One possible mechanism to help accomplish this would be the establishment of a “Regional Round Table on Joint Development.” The proposed round table (consisting of an equal number of official representatives from the government of each claimant state) could be either a coordinating body whose function is to serve as a liaison office or an authority whose function is to supervise, or even to undertake, joint development projects. Its composition, mandate, and work procedure should be left to negotiation and agreement by the governments of the claimant states themselves. The primary purpose of the round table would be to formalize the dialogue currently brokered by Indonesia and to speed up the joint development process.

## Conclusion

It seems from the preceding review and examination that there is cause both for gloom and guarded optimism regarding the long-running dispute over the Spratly Islands in the South China Sea. The cause for gloom relates to the latest developments in the region, such as the arms buying spree. Alternatively, the cause for guarded optimism for a peaceful resolution of the Spratly Islands disputes arises out of the unprecedented regional efforts to search for an avenue of cooperation by which the claimant states can shelve their sovereignty claims and jointly develop the natural resources in the area.

The maritime disputes have earned the South China Sea, once an isolated corner of the Pacific, the sobriquets of “Asia’s next flashpoint,” “Asia’s ammunition house,” and “another hot spot of the world.” There is a possibility for this area to become a “dangerous ground.” But the best way to deal with a potential threat is to turn it into an opportunity. The nations and their peoples in the region understand this. As an Indonesian diplomat put it: “talk talk is better than shoot shoot.”<sup>54</sup> This is absolutely right, but it is not enough. We should add to it: “actions speak louder than words.”

Only a regional cooperative approach in the form of joint development, either bilateral or multilateral as the case may be, can provide a key to the current imbroglio of the Spratly Islands disputes and help to achieve “Pacem in Maribus” in the South China Sea.

## Notes

1. There were several excellent studies on the process of the South China Sea disputes—for instance, M. S. Samuels, *Contest for the South China Sea* (New York: Methuen, 1982); and Chi-

kin Lo, *China's Policy Towards Territorial Disputes: The Case of the South China Sea Islands* (London: Routledge, 1989). See also Z. Gao, "The South China Sea Disputes and the Prospect for Joint Development" (paper presented at the 1991 Maritime Strategy Series Conference: Maritime Interests, Conflict, and the Law of the Sea, Halifax, Nova Scotia, Canada, June 20–23, 1991).

2. Cf. M. J. Valencia, *South-East Asian Seas, Oil under Troubled Waters: Hydrocarbon Potential, Jurisdictional Issues, and International Relations* (Singapore: Oxford University Press, 1985), 87–89.

3. *Central Daily News* (Taiwan) (in Chinese), Dec. 2, 1992, 4.

4. The Law of the People's Republic of China on the Territorial Sea and Contiguous Zone was promulgated and became effective on February 25, 1992; reprinted in *People's Daily* (Beijing) (in Chinese), Feb. 26, 1992, overseas ed., 4.

5. See, for sample, Z. Han, J. Lin, and F. Wu, eds., *Collection of Historical Materials on China's Islands in the South China Sea* (Beijing: Oriental Press, 1988).

6. *People's Daily*, Sept. 29, 1989, overseas ed., 4.

7. *Central Daily News*, Dec. 2, 1992, 4.

8. *Ibid.*

9. *Ibid.*

10. Note that China's military spending is much less than that of the world's major powers and even lower than that of its neighbors. For instance, the U.S. military budget for 1993 runs as much as U.S.\$270 billion. The military spendings of the United Kingdom, France, and Germany are all over U.S.\$30 billion, and Japan's budget is U.S.\$37.73 billion for the same period. H. Mu, "The Doctrine of China's Military Threat Is Groundless," *People's Daily*, Apr. 20, 1993, overseas ed., 6.

11. See *Central Daily News*, Sept. 29, 1993, 3; *Central Daily News*, Oct. 8, 1993, 1.

12. *Central Daily News*, July 15, 1993, 1.

13. *Central Daily News*, Dec. 23, 1990, 4.

14. M. Vatikiotis, "Mix and Match: Russia and US Split Order for Combat Aircraft," *Far Eastern Economic Review* 156, no. 27 (1993): 13; Tai Ming Cheung, "Fangs of the Dragon—Peking's Naval Build-up Sparks ASEAN Reaction," *Far Eastern Economic Review* 155, no. 92 (1992): 19–20.

15. Cheung, "Fangs of the Dragon," 19–20.

16. "Territorial Disputes Simmer in Areas of South China Sea," *Oil & Gas Journal*, July 13, 1992, 21.

17. For a discussion of this, see Lo, *China's Policy Towards Territorial Disputes*, particularly pp. 53–108.

18. See S. S. Harrison, "Conflicting Offshore Boundary Claims," *China Business Review*, May–June 1983, 51–53.

19. N. D. Kristof, "China Signs U.S. Oil Deal for Disputed Waters," *New York Times*, June 18, 1992, A8; M. Vatikiotis, "China Stirs the Pot," *Far Eastern Economic Review* 155, no. 27 (1992): 14–15.

20. See "Statement of the Ministry of Foreign Affairs of the Socialist Republic of Vietnam on the Agreement between Chinese and U.S. Oil Companies for the Exploration and Exploitation of Oil and Gas on the Continental Shelf of Vietnam" (Hanoi, May 16, 1992).

21. N. Chanda, "Stampede for Oil: U.S. Firms Rush to Explore Vietnamese Waters," *Far Eastern Economic Review* 156, no. 8 (1993): 48.

22. *Ibid.*

23. *People's Daily*, May 14, 1993, overseas ed., 1.

24. Vatikiotis, "Mix and Match," 13.

25. "Vietnam Spratly Tax Holiday," *Far Eastern Economic Review* 156, no. 37 (1993): 14.

26. For a description of the nongovernmental workshop process, see T. L. McDorman, "The South China Sea Islands Dispute in the 1990s—A New Multilateral Process and Continuing Friction," *International Journal of Marine and Coastal Law* 8 (1993): 263–285.

27. *Ibid.*, 283 (Appendix 1: Workshop Statement, Bandung, 18 July 1991).
28. *Ibid.*, 283–285 (Appendix 2: Workshop Statement, Yogyakarta, 2 July 1992).
29. “ASEAN Focuses on Cambodia, Burma, and Spratlys,” *Bangkok Post*, July 25, 1992; “ASEAN Proposes Guidelines to Settle South China Sea Rows,” *Asian Wall Street Journal*, July 23, 1992, 1, 7.
30. McDorman, “South China Sea Islands Dispute,” 285 (Appendix 3: ASEAN Declaration on the South China Sea). For a brief account, see M. Bociurkiw, “Agreement Reached on Spratlys,” *South China Morning Post* (Hong Kong), July 23, 1992, 7.
31. “Symposium on the South China Sea Islands,” *People’s Daily*, Sept. 19, 1993, overseas ed., 4 (author’s translation).
32. For more information on the symposium, see *Central Daily News*, Sept. 7, 1993, 1; *Central Daily News*, Sept. 8, 1993, 1–2; *Central Daily News*, Sept. 9, 1993, 1; and *Central Daily News*, Sept. 10, 1993, 1.
33. D. C. Drigot, “Oil Interests and the Law of the Sea: The Case of the Philippines,” *Ocean Development and International Law* 12 (1982): 50.
34. J. R. Coquia, “Maritime Boundary Problems in the South China Sea,” *University of British Columbia Law Review* 24 (1990): 124.
35. A. Hamzah, “Jurisdictional Issues and the Conflicting Claims in the Spratly: What Can Be Done in Enhancing Confidence-building Measures,” in *Proceedings of Workshops on Managing Potential Conflicts in the South China Sea, Penpasar, Indonesia, January 22–24, 1990* (draft), 27–28.
36. The idea has been proposed by a number of scholars. For example, see M. J. Valencia and M. Miyoshi, “Southeast Asian Seas: Joint Development of Hydrocarbons in Overlapping Claim Areas?” *Ocean Development and International Law* 16 (1986): 211.
37. Treaty between Australia and the Republic of Indonesia on the Zone of Cooperation in an Area between the Indonesian Province of East Timor and Northern Australia, Dec. 11, 1989, 29 I.L.M. 469.
38. The text of the draft agreement has not been published.
39. Noted in Coquia, “Maritime Boundary Problems,” 123.
40. *Ibid.*
41. The text of the agreement has not been published.
42. M. Bociurkiw, “China Suspends Claim on Spratlys,” *South China Morning Post*, July 22, 1992, 1, 11.
43. F. Ching, “Scientific Meetings Being Held to Reduce Spratlys Tension,” *Far Eastern Economic Review* 156, no. 21 (1993): 30.
44. B. A. Hamzah, “China’s Strategy,” *Far Eastern Economic Review* 155, no. 32 (1992): 22.
45. Statement by the spokesman of the Chinese Foreign Ministry at a press conference, reprinted in *People’s Daily*, July 17, 1992, overseas ed., 1.
46. M. J. Valencia and P. Cai, “Vietnam/China Relations and Their Maritime Disputes” (draft, East-West Center, Honolulu, Hawaii, May 5, 1993), 9.
47. Annual Work Report of the Chinese Government by Premier Li Peng to the First Plenary Session of the Eighth National People’s Congress (Mar. 15, 1993), reprinted in *People’s Daily*, Apr. 2, 1993, overseas ed., 3 (author’s translation).
48. This is perhaps already happening. At the Indonesia-brokered informal negotiation workshops on managing the South China Sea disputes, China supported almost everything proposed by Taiwan, except the usage of its official title. It was voiced at the recent Symposium on the South China Sea held in Taiwan that “the two sides of the Taiwan Strait must adopt the same position in order to achieve the favorable sovereign conditions.” “Strong Declaration by Lian Kui on the Chinese Sovereignty in the South China Sea,” *Central Daily News*, Sept. 8, 1993, 2.
49. *Central Daily News*, Oct. 2, 1993, 8.
50. Cf. S. McElroy, “Failure to Resolve Marine Boundary Disputes Raises Tensions in SE Asia,” *Marine Policy* 16 (1992): 489. Vietnam signed a treaty of amity and cooperation with

ASEAN in Manila on July 22, 1992, and is now looking forward to full membership in the near future. *Ibid.*

51. Quoted in Valencia and Cai, "Vietnam/China Relations," 4.

52. R. Pura, "China Seeks Closer Security Ties to ASEAN," *Asian Wall Street Journal*, July 22, 1992, 7.

53. S. Awanohara, "Washington's Priorities: U.S. Emphasizes Freedom of Navigation," *Far Eastern Economic Review* 155, no. 92 (1992): 18.

54. Ching, "Scientific Meetings," 30.



**Annex 704**

Ji Guoxing, "The Diaoyudao (Senkaku) Disputes and Prospects for Settlement", *Korean Journal of Defense Analysis*, Vol. 6, No. 2 (1994)



## The Diaoyudao (Senkaku) Disputes and Prospects for Settlement

Ji Guoxing

The Diaoyudao (Senkaku) disputes between China and Japan are one of the most controversial issues in Northeast Asia. The controversy involves two dimensions: sovereignty over the Diaoyudao Islands and the relevant maritime jurisdictional rights and interests in East China Sea.

China holds that the Diaoyudao Islands have been China's territory since ancient times, and that they appertain to Taiwan. China argues that from the viewpoints of geography, history, usage, and international treaties, the Islands belong to China. Japan holds that these Islands were *terra nullius* before their incorporation by Japan in 1895, and that they were not included in the Shimonoseki Treaty signed after the Sino-Japanese War in 1895, nor included in the territories Japan had to give up according to the San Francisco Peace Treaty of 1951.

Judging from international law, the claims of China are valid and well-founded, and are stronger than those of Japan. First, China meets the requirements of acquisition by discovery. Secondly, Japan's annexation of the islands is closely related to its victory in the Sino-Japanese War, and this annexation has no legal effects on sovereignty. Thirdly, the inclusion of the Islands in the Okinawa Reversion Treaty signed between Japan and the US in 1971 cannot be taken as an evidence of Japan's sovereignty over the Islands.

The disputes over the Diaoyudao Islands are in fact greatly connected with relevant maritime jurisdictional rights and interests. There exist differences between China and Japan in regard to the principles of the delimitation of continental shelf, to the maritime jurisdictional rights of islands, and to the principles of boundary delimitation. China adheres to the natural prolongation of land territory, and holds that the

Diaoyudao islands do not warrant their own continental shelf, and that the boundary delimitation should be mainly effected by agreement. Japan stands for a 200-nautical-miles limit for the continental shelf, for the use of the Islands as base points for continental shelf claims on East China Sea, and for the median-line principle in boundary delimitation.

The Diaoyudao disputes have been shelved since the normalization of relations between China and Japan in 1972—a good approach, but it was only an expedient measure. Now the conditions for negotiated solutions are gradually coming to maturity.

There might be three options for the settlement. The first would be to come to an agreement on boundary delimitation through negotiation in a spirit of mutual understanding and mutual accommodation. The second one is to agree to put this issue to the International Court of Justice for arbitration or to accept other forms of third-party involvement. The third would be to work for joint development in the disputed areas. The sea areas around the Diaoyudao Islands seem of low prospect in oil and gas reserves, but the sea areas near the Islands and on the disputed relevant continental shelf do have good prospects. The third option looks to be the most feasible approach at present.

## The Diaoyudao (Senkaku) Disputes and Prospects for Settlement

Ji Guoxing

The Diaoyudao (Senkaku) disputes between China and Japan are one of the most controversial issues over Northeast Asian waters. The controversy involves two dimensions: sovereignty over the Diaoyudao Islands and relevant maritime jurisdictional rights and interests in the East China Sea.

The Diaoyudao Islands consist of five uninhabited islets and three barren rocks, located approximately 120 nautical miles northeast of Taiwan, 200 nautical miles east of the China mainland coast, and about 200 nautical miles southwest of Okinawa. They are all at the edge of the East China Sea continental shelf fronting the Okinawa Trough on the south. The depth of the surrounding waters is about 100–150 meters, with the exception of a deep cleft in the continental shelf just south and east of the islands that separates them from the Ryukyu Islands. The total land area is about 7 square kilometers. Diaoyu Dao itself is the largest of them with an area of 4.319 square kilometers, lying in the southwest of the group, measuring about 3.2 square kilometers in length, slightly less than a mile in width and 369 meters high above sea level at its highest. The others are Huangwei Dao (118 meters above sea level, 1.08 square kilometers), Chiwei Dao (81 meters above sea level, 0.154 square kilometers), Nanxiao Dao (148 meters above sea level, 0.463

square kilometers), Beixiao Dao (129 meters above sea level, 0.302 square kilometers), Dananxiao Dao, Dabeixiao Dao, and Feilai Dao.<sup>1</sup>

The sea areas around the Diaoyudao Islands are rich in fishery resources such as mackerel, bonito and lobsters. Camellias, palms, cactus, and sea lotus, many of which are valuable medicinal herbs, abound on the Islands. Albatross feathers and guano are found everywhere. They are thought to be rich in oil and gas resources, but this needs to be confirmed. In addition, the Islands are strategically located, straddling the sea-lanes in the East China Sea.

The Diaoyudao disputes are related with oil resources and have intensified since oil reserves were reported in the area in the late 1960s. The United Nations Economic Commission for Asia and the Far East, in its report of May 1969 after a seismic survey, reached the conclusion that the area around the Diaoyudaos may contain one of the most prolific oil and gas reserves in the world. Then, after having conducted submarine topography, geologic, magnetic, and seismic surveys of the areas in the summer of 1969, the Japanese confirmed that the location was worthy of oil exploration. Later results of offshore exploration were disappointing, but the disputes have remained a highly controversial and sensitive issue. Here lies both the factor of national sentiments and the factor of relevant continental shelf claims, as the resources within the continental shelf are estimated to be of good prospect. Moreover, the stipulation in the 1982 UN Convention on the Law of the Sea regarding the continental shelf has further exacerbated the crisis due to its ambiguity: "Possession of the islands would confer title over about 11,700 square nautical miles of the continental shelf landward of the 200-meter isobar (depth line)."<sup>2</sup>

When relations between China and Japan were normalized in 1972, both sides agreed to shelve the disputes. This was a good expedient measure, but things could not be put aside indefinitely. Besides, different interpretations exist in regarding the shelving of the disputes. The Chinese side regarded the shelving as a way of maintaining bilateral

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1 The five islets and three rocks are named by the Japanese as Uotsuri Jima, Kuba Jima, Taisho Jima, Kitako Jima, Minami Ko Jima, Okino Kita Iwa, Okino Minami Iwa and Hize.

2 *Far Eastern Economic Review*, March 31, 1988, p. 29.

friendly relations for future negotiations; some Japanese seem to regard the shelving as a way of consolidating Japan's present control of the islands as a *fait accompli*. For the long-term interests of both countries, and for the cause of lasting peace and stability in East Asia, the exploration of various potential settlements of the dispute should be put on the agenda now.

### **Historical Facts**

Since the mid-16th century, the Diaoyudao Islands have been Chinese territory. The islands were named in Chinese as Diaoyu Dao (Diaoyu Yu, or Tiaoyu Tai) with a literal meaning of "fishing islands (islets)" in the years of Emperor Jaiqing (1522–66) of the Ming Dynasty. They have always appertained to China's Taiwan, but not to Ryukyu (known now as Okinawa). Fishermen from China's Taiwan and Fukien provinces have all along carried out productive activities there.

The extinct Ryukyu Kingdom originally acknowledged allegiance to China, and maintained vassalage successively with China's Ming and Qing dynasties. Ryukyu's kings were crowned by the Chinese emperors who used to send their representatives for the coronation ceremonies in Ryukyu. The first Chinese envoy was sent there in 1372. Situated between the Chinese mainland and the Ryukyus, the Diaoyudao Islands provided the Chinese with a convenient landmark for navigation, and were the only way through which the Chinese missions could pass to reach the Ryukyus. A feudal lord from Kagoshima, Shimazu, conquered the Ryukyu Kingdom in 1609 and turned it into a colonial dependency. But all the successive kings of Ryukyu pledged allegiance to the Chinese emperors and accepted titles from them. To resist harassment by the Japanese, "China's Ming Dynasty in 1556 appointed Hu Zong Xian commander of the punitive force in charge of military action against the Japanese invaders in the coastal provinces. Diaoyu Dao, Huangwei Dao, Chiwei Dao and other islands were then within the scope of China's coastal defense."<sup>3</sup>

It was more specifically stated in the logbooks of Chinese investiture envoys sent to the Ryukyus that "These islands belong to China, and

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3 *Beijing Review*, January 7, 1972, p. 13.

that the demarcation line between China and the Ryukyu Islands lies between Chiwei Dao and Kume Island.”<sup>4</sup> For example, in 1534 Emperor Jaiqing sent his envoy Chen Kan to bestow the title King Zhongshan of Ryukyu upon Shang Qing, the ruler of Ryukyu at that time. Chen Kan traveled between Fuzhou and Naha. Chen Kan wrote in his *Records of the Imperial Mission to Ryukyu*, “On the 10th (of the 5th moon), the ship sailed swiftly with a strong south wind. . . . Pengchia Yu, Diaoyu Yu, Huangwei Yu, and Chi Yu (now called Chiwei Dao) were left behind. . . . On the evening of the 11th, the Kumi Hill (now called Kume Island) was in sight. It belongs to Ryukyu.”<sup>5</sup> In 1562, Guo Rulin, the imperial envoy following Chen Kan, wrote in his *Reengraved Records of the Imperial Mission to Ryukyu*, “On the first of the intercalary fifth moon, we passed by Diaoyu Yu and arrived at Chi Yu on the third. Chi Yu is a hill bordering on Ryukyu Territory. Another day of favorable wind, the Kumi Hill will be in sight.”<sup>6</sup> It is clear from the above two documents that the envoys started from China’s territory and passed by several Chinese islands, and not until they had arrived at the Kume Island did they write “It belongs to Ryukyu,” indicating that Ryukyu territory began from the Kume Island, whereas the Chiwei Dao and the area west of it were China’s territory.

Besides these Chinese records, there is a native Ryukyu record of 1708—*A Geographic Guide in Outline*—written by Cheng Shun Tse, the most renowned scholar of Ryukyu in his time, which described the navigation route from Fuzhou to Naha, and when referring to Kume Island, called it “the garrisoning hill at the southwest border of Ryukyu.”<sup>7</sup> There were also “two Japanese maps of 1783 and 1785, each specifying the boundary of the Ryukyu Kingdom, though the last one does so only indirectly.”<sup>8</sup> The boundary referred to in these records is

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4 Ibid. Chiwei Dao is at the east end of the Diaoyudao Islands, while Kume Island, belonging to the Ryukyus, is situated about 40 nm west of Okinawa and about 150 nm east of the Diaoyudaos.

5 “Chronicle of Events on the Diaoyudaos,” Ming Bao Publishers, Hong Kong, May 1979, p. 4.

6 Ibid.

7 Ibid.

8 Choon-ho Park, “Continental Shelf Issues in the Yellow Sea and the East China

substantially the same, indicating or implying that the Diaoyudao Islands belong to China.

Japan dethroned the king of the Ryukyus in 1872 (the fifth year of the Meiji Era), reducing him to the status of a feudal lord and turning this former colony of Shimazu into one of the Tenn system, and in 1879 Japan annexed the former kingdom as the Prefecture of Okinawa. Naturally, the area of Okinawa Prefecture did not exceed the territorial limit of the former Ryukyu Kingdom. In 1879, when Li Hongzhang, minister superintendent of trade for the northern ports of China of the Qing Dynasty, held negotiations with Japan over title to the Ryukyus, both the Chinese and Japanese sides held that the Ryukyus comprised thirty-six islands. None of the Diaoyudaos were among those thirty-six islands.

As the Qing Dynasty of China protested against the annexation of the Ryukyus, former US President Ulysses S. Grant in a private capacity mediated negotiations between the Japanese and the Qing governments on the dispute. During the negotiations, the Chinese side put forward a formula to divide the Ryukyus into three parts, stipulating the Amami Islands as Japanese territory, Okinawa and its surrounding islands as the territory of an independent Ryukyu kingdom, and the Miyako and Yaeyama Islands in the south as Chinese territory. "As a counter-measure, the Japanese side proposed to divide into two parts: from the Okinawa Islands and to the north were to be Japanese territory, and the Miyako-Yaeyama Islands Chinese territory."<sup>9</sup> Since the Diaoyudaos were beyond Ryukyu territory, they naturally were not treated as objects of negotiation in either Japan's or in China's proposal.

An agreement to divide the Ryukyus into two parts between the Qing Dynasty and Japan was initialed in 1880. "However, the agreement did not go into effect, because the Qing Emperor put off its ratification due to his opposition to the conditions attached to the agreement. That does not mean the Qing Dynasty gave up its ownership."<sup>10</sup> The event ended

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Sea," Law of the Sea Institute, University of Rhode Island, Occasional Paper No. 15, 1972, p. 38.

9 *Beijing Review*, May 12, 1972, p. 20. Cited from Kiyoshi Inoue, "The Senkaku Islands and Other Islands Are China's Territory" published in the Japanese monthly *Japan-China Cultural Exchange*, February 1972.

up with nothing definite, thus the question was shelved by the Japanese and Chinese governments until the Sino-Japanese War broke out. Thus it is the fact that even after the Meiji Reform, until the outbreak of the Sino-Japanese War, Japan had not even thought of claiming title to the Diaoyudaos or of challenging China's title to the Islands.

Then there were a series of calculated measures on Japan's side bearing upon the territorial status of the Diaoyudao Islands. In 1884, Japan alleged that Diaoyu Dao was first discovered by a Ryukyu fisherman named Tatsushiro Koga, who made a living catching and exporting marine products, and who found innumerable albatrosses on the island. Koga applied for a lease of land to develop his business on the island, but his request was turned down, because "it was not clear at the time whether the island belonged to the (Japanese) empire".<sup>11</sup> In 1885, the prefectural government of Okinawa sought the approval of the central government to place Diaoyu Dao and two other islets under its jurisdiction. Upon consultation with the Foreign Ministry, the Home Ministry hesitated to take action and advised postponement of the matter, "since the islets were situated close to China where reports of the Japanese occupation of Chinese islands in the vicinity of Taiwan were circulating to solicit the Chinese government's attention. Erection of boundary markers would arouse China's suspicion and would better await some other occasions."<sup>12</sup> Okinawa sought similar approval from Tokyo for the second time in January 1890 on the pretext of managing fishery and setting up navigation marks, and for the third time in November 1893, but in vain. Tokyo did not respond.

It was not until January 14, 1895, that the Japanese cabinet granted approval to Okinawa to annex two of the islets. This was the first of two measures to incorporate the Diaoyudao Islands into Japanese territory; the other was Imperial Decree No. 13 of March 5, 1896, based on a cabinet decision. But actually the Imperial Decree No. 13 related only to the formation of various districts of Okinawa Prefecture and said

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10 Kiyoshi Inoue, "On the History and Ownership of the Senkakus," Ming Bao Publishers, p. 160.

11 Ibid., p. 170.

12 Hungdah Chiu, *An Analysis of Japan's Claims over the Diaoyudaos* (Ming Bao Publishers), pp. 40-41.

nothing about incorporating Diaoyu Dao and other islands into Okinawa Prefecture. Probably, Diaoyu Dao and other islands were incorporated into Ishigaki village of the Yaeyama district “in accordance with an order issued by the interior minister to change the boundary of the Yaeyama district, an order based on Article 2 of the March 5 imperial decree.”<sup>13</sup>

The Japanese cabinet decision of 1895 was closely related to the Sino-Japanese War (July 1894–March 1895), which ended in October 1894 in Japan’s favor. In its letter to the Foreign Ministry dated December 27, 1894, regarding approval of the annexation of the islands, the Home Ministry explained, “the present circumstances are already different from the past.”<sup>14</sup> The different circumstances referred to were just the full assurance of success on Japan’s side in the war, the conviction that China was then in no position to object, and that Japan did not have to worry about the attitude of the Qing Dynasty regarding the annexation.

On April 17, 1895, the Treaty of Ma Guan (the Treaty of Shimonoseki) was signed between China and Japan formally concluding the Sino-Japanese War. By Article 2(b) of the Treaty, China ceded to Japan Taiwan (Formosa), “together with all islands pertaining or belonging to the said Island of Formosa” and the Penghu Islands (the Pescadores). Under these circumstances, if China raised an objection to Japan’s occupation of the Diaoyudao Islands, it would have made no sense. China is certain that “the Senkaku Islands appertained to Formosa at the time the Treaty was concluded and came into force.”<sup>15</sup> Without the Sino-Japanese War, Japan would have been unable to occupy the Diaoyudao Islands. As Kiyoshi Inoue, a Japanese historian, said, one thing perfectly clear is “Diaoyu Dao and other islands were regarded as Japanese territory only after Japan had seized Taiwan and other places

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13 *Beijing Review*, May 12, 1972, p. 21. Cited from Kiyoshi Inoue, *Japan-China Cultural Exchange*, February 1972.

14 Hungdah Chiu, op. cit., p. 42.

15 J. R. V. Prescott, “Maritime Jurisdiction in East Asian Seas,” *Occasional Papers of the East-West Environment and Policy Institute, East-West Center*, 1987, Paper No. 4, p. 55.

from Qing through the Japan-Qing war as part of a series of territories wrested from Qing.”<sup>16</sup>

In 1900, i.e., five years after the Japanese annexation of the Islands, Tsune Kuroiwa, a teacher of the Okinawa Prefecture Normal School, explored the islets and rocks, and coined the name of “Senkaku” to denote the entire group for the sake of geographical convenience. It was only since then that these islands have been called the Senkaku Islands by Japan. Atlases published prior to it identified the individual islets of the group by their Chinese names. “Senkaku” (a pointed house) was chosen probably because its similarity to the English name “pinnacle,” which appeared to owe its origin to exploratory expeditions by British ships during the 1840s.

In 1945 when the Second World War came to an end with the defeat of Japan, Japan accepted the following condition set forth in the Cairo Declaration of 1943, “All the territories Japan has stolen from the Chinese, such as Manchuria, Formosa, and the Pescadores, shall be restored to the Republic of China.”<sup>17</sup> On October 26, 1945, China declared Taiwan as its thirty-fifth province. The return of Taiwan to China was formally referred to in the San Francisco Peace Treaty of September 8, 1951, signed by Japan and the Allies. The Soviet Union did not sign the treaty, and the PRC was not invited to the conference.

As for the Ryukyu Islands, which were surrendered to the United States on September 7, 1945, and had since been under military government, a trusteeship system under US control was provided for in Article 3 of the San Francisco Treaty, which reads, “Japan will concur in any proposal of the United States to the United Nations to place under its trusteeship system, with the United States as the sole administrative authority, Nansei Shoto south of 29° north latitude (including the Ryukyu Islands).”

It was a mistake from the beginning that the Diaoyudao Islands, which should have been returned to China together with Taiwan, were included in the areas under US administration. China refutes Japan’s

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16 *Beijing Review*, May 12, 1972, p. 21. Cited from Kiyoshi Inoue, *Japan-China Cultural Exchange*, February 1972.

17 The Conference at Cairo and Tehran (1943), “Foreign Relations US, 1961,” pp. 448–49.

suggestion that Article 3 of the San Francisco Treaty includes the Diaoyudao Islands as part of Nansei Shoto south of 29° N. "In any case the mistake was overridden by Article 2 in which Japan renounced all rights, title, and claim to Formosa and the Pescadores."<sup>18</sup> As the Diaoyudao Islands are part of the islands appertaining to Taiwan, China interprets the name Formosa to include the Diaoyudao Islands. In 1958 China made a declaration about its territorial sea, which made it clear that the provisions about its territorial sea shall apply to all its territories including Taiwan and its surrounding islands.<sup>19</sup>

After the reported oil potentialities in the water areas of the Diaoyudao Islands in May 1969, the controversy over the Islands escalated. Some 14,000 applications for drilling rights had been filed with the Ryukyu Government, principally by Japan Petroleum Development Public Corporation. Japan also took some unilateral actions including revising maps and erecting boundary markers in 1969, and in May 1972 giving Japanese names to these eight islets. In August 1970 the Taiwan Authorities of China passed a statute to control exploration and drilling in Chinese territorial waters and continental shelf, and signed with Gulf Oil an oil concession contract over an area that included the Diaoyudaos. Japan protested immediately, alleging that the Islands belonged to Japan. In September 1970, a group of Taiwan reporters planted a Taiwan flag on one of the Islands. Japanese policemen tore down the flag and forcibly evicted the reporters. This behavior bruised Chinese patriotic sentiment, and a "Protect the Diaoyudaos Movement" emerged in Taiwan, Hong Kong, and in major metropolitan centers of North America. In the US alone, the number of action committees devoted to this cause has exceeded 100 in 36 states. On December 4, 1970, Beijing came out with a strong claim to the ownership of the Islands.

As the confrontation continued to be tense, the United States, as previous administrator of the Ryukyu Islands, was also required to clarify its stand on the issue. On September 10, 1970, the US State

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18 J. R. V. Prescott, p. 55.

19 *People's Daily*, Beijing, September 5, 1958.

Department said that the term “Nansei Shoto” as used in the San Francisco Treaty “was intended to include the Senkaku Islands,” and that any conflicting claims “would be a matter for resolution by the parties concerned.”<sup>20</sup>

On June 17, 1971, a reversion treaty was signed in Tokyo between Japan and the US, whereby Okinawa was to be restored to Japan. Before the reversion took place on May 15, 1972, the US reclarified its stand in October 1971 as follows: “The United States believes that a return of administrative rights over those islands to Japan, from which the rights were received, can in no way prejudice any underlying claims. The United States cannot add to the legal rights of Japan possessed before it transferred administration of the islands to us, nor can the United States, by giving back what it received, diminish the rights of other claimants. The United States has made no claim to the Senkaku Islands and considers that any conflicting claims to the islands are a matter for resolution by the parties concerned.”<sup>21</sup> The US attitude was criticized by Japan for being too neutral and by China for being partial to Japan.

In accordance with Section 1 of Article III of the Okinawa Reversion Agreement, Japan continued to offer US military forces training zones over the Diaoyudao Islands after the reversion, but after 1979, “the training came to a halt there. . . . The headquarters of the US forces in Japan explained the reason why the US forces stopped training here was because possession of the islands has been a matter of dispute among Japan, China and Korea.”<sup>22</sup>

Tension over the Diaoyudaos has occurred now and then during the past two decades. For example, during the negotiations for the Treaty of Friendship between China and Japan in 1978, some members of the Japanese Diet called for China’s recognition of Japan’s claim to the Diaoyudaos as the price for Japan’s signature. China at that time sent

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20 US State Department, Press Release, September 10, 1970.

21 Hearings before the Committee on Foreign Relations, US Senate, 92nd Cong. October 27–29, 1971, p. 91.

22 Kiyoshi Nakachi, “The Senkaku Islands: Territorial Dispute,” paper for the 34th International Congress Asian and African States, University of Hong Kong, August 23–27, 1993, p. 15.

more than 100 fishing boats into the area carrying placards asserting Chinese ownership. After Deng Xiaoping said in Tokyo in October 1978 that “It does not matter shelving such an issue, and waiting for another decade,”<sup>23</sup> the treaty was signed with no reference to the Diaoyudaos. Early in 1979, when Japan began the construction of a helicopter landing pad on Diaoyu Dao, China sent some 50 fishing boats into the area as a protest demonstration. In July 1981 when the Okinawa prefectural government conducted a brief fishing survey project in the area, China expressed concern over the operation and demanded that it not be repeated. In late 1981 China sent a survey vessel into the area, and this vessel was removed at Japan’s request. In January 1986, “In a brief story of a crystalline mineral found by China near the Diaoyudaos which had been classified by the International Mineral Association as a new mineral, the PRC asserted ownership of the Island with the remark that they were part of Taiwan Province.”<sup>24</sup>

The most recent incident involving challenge to ownership of the Diaoyudaos occurred in October 1990 when a Japanese right-wing political group received permission from the Japanese government to renovate a lighthouse on one of the islets. On October 21 two Taiwanese fishing boats sought to land a delegation of politicians and athletes on Diaoyu Dao to run a torch relay to reinforce the claim to the islands, but twelve Japanese vessels and two helicopters approached the fishing boats and forced them to turn away after a five-hour standoff. Then protests against Japan’s claims to the Islands mounted in Taiwan, Hong Kong, and Macau, and “They also called for a second global Protect Diaoyudaos Movement as a continuation of the first one.”<sup>25</sup> Beijing joined the criticism of Japan’s action, and reiterated that China held indisputable sovereignty over the Islands.

On February 26, 1992, China’s National People’s Congress enacted the first law on territorial waters and contiguous zones, which says that

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23 *People’s Daily*, Beijing, October 26, 1978.

24 Gerald W. Berkley, “The Issue of Sovereignty over Diaoyudao,” paper for the 34th International Congress of Asian and African States, University of Hong Kong, August 23–27, 1993, p. 4.

25 *South China Morning Post*, Hong Kong, October 23, 1990.

Taiwan and all islands including the Diaoyudaos pertaining to Taiwan are China's territory.

### **China's Stand**

China holds that "Diaoyu Dao, Huangwei Dao, Chiwei Dao, Nanxiao, Beixiao Dao, etc., are islands appertaining to Taiwan. Like Taiwan, they have been an inalienable part of Chinese territory since ancient times, and appertain to China's Taiwan."<sup>26</sup> The seizure by the Japanese government of these Chinese islands cannot change the historical fact. China's arguments are:

Geographically, the Diaoyudao Islands are situated on the edge of the East China Sea continental shelf which is contiguous to the Chinese mainland and Taiwan, whereas on the south, they border the Okinawa Trough which plunges to over 2,000 meters. "The Islands are therefore continental, appertaining to Taiwan, unlike the Ryukyus which are oceanic."<sup>27</sup>

Historically, the Islands were discovered and named by China hundreds of years before the Ryukyu fisherman Tatsushiro Koga discovered them in 1884 as was alleged by Japan. Reference to the Islands is found in a number of Chinese writings dating back to the mid-16th century. China argues the history of the Islands conclusively establishes Chinese sovereignty.

From the point of usage, the fishing grounds around the Islands have been regular haunts of Chinese fishermen, who used the Islands as storm shelters as well. During those years the Islands were fit for nothing but as navigational aids and were used as such. Besides, the prevailing currents and winds in the area made it difficult to sail to the Islands from the Ryukyus. This also explains why the Islands were discovered and used almost exclusively by the Chinese. China strongly argues that discovery alone or discovery accompanied by some formal act of usage is sufficient to establish sovereignty over the Diaoyudaos.

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26 "Statement of PRC's Ministry of Foreign Affairs, December 30, 1971," *Beijing Review*, January 7, 1972, p. 13.

27 Choon-ho Park, "Continental Shelf Issues," p. 40.

In 1893, Empress Dowager Tsu Shih of the Qing Dynasty issued an imperial edict granting three islets of the Diaoyudao Islands to one of her subjects, Sheng Xuanhuai (Sheng Hsuan Huai) for collecting herbs. This is an official act on China's side. This took place 14 years after Japan's annexation of the Ryukyus, further proving that the Diaoyudaos are part of Chinese territory. A granddaughter of Sheng Hsuan Huai, who is in possession of the Imperial Edict, is now living in the US. The Imperial Edict issued "on the 10th month of the 19th year of Emperor Kuang Hsu, 1893" reads as follows: "The medical pills submitted by Sheng Hsuan Huai . . . have proved to be very effective. The herbs used in making the pills are said to have collected from the small island of Tiao Yu Tai (Diaoyu Dao), beyond the sea of Taiwan. Being made of ingredients from the sea, the prescription is more effective than that available in the Chinese mainland. It has come to my knowledge that the said official's family has for generations maintained pharmacies offering free treatment and herbs to destitute patients. This is most commendable. The three small islands of Tiao Yu Tai, Huang Wei Yu, Chih Yu are hereby ordered to be awarded to Sheng Hsuan Huai as his property for the purpose of collecting medical herbs. May the great universal benevolence of the Imperial Dowager Empress and of the Emperor be deeply appreciated."<sup>28</sup>

In 1940, when both Taiwan and the Ryukyus were under the Japanese rule, a controversy arose between the fishermen of these two areas over the fishing rights around the Diaoyudaos. "This question of fishing rights was finally decided in favor of Taiwan by a Tokyo Court in 1941, which is a proof that the Japanese themselves recognized that the Islands belonged to Taiwan."<sup>29</sup>

From the point of international treaty, as far as China is concerned nothing that happened after 1895 can be considered relevant in undermining China's long-standing claims. When Taiwan and all the islands appertaining or belonging to it were ceded to Japan in 1895 as a result of China's defeat in the Sino-Japanese War, the Diaoyudao Islands were undoubtedly included in that part of the Chinese territory so ceded. Japan's unilateral proclamation of annexation of the Diaoyudaos in 1895

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28 Ibid., p. 47.

29 Ibid., p. 40.

can have no legal effect, since one state cannot unilaterally proclaim sovereignty over the territory of another. In 1945 when Japan surrendered to the allies, she accepted the terms as set forth in the Cairo and Potsdam Declarations regarding the return of the Chinese territories including the Diaoyudao Islands. Paragraph 8 of the Potsdam Proclamation by China, the US and the United Kingdom stipulates, "Japanese sovereignty shall be limited to the islands of Honshu, Hokkaido, Kyushu, Shikoku and such minor islands as we determine." In the Joint Statement of 1972 between China and Japan on the normalization, Japan made it clear that it "adheres to its stand of complying with Article 8 of the Potsdam Proclamation."<sup>30</sup>

As to the San Francisco Treaty and the Okinawa Reversion Treaty, China holds that "The United States government excluded the PRC in calling the San Francisco Conference, which it monopolized, and signed a separate peace treaty with Japan." Thus the treaty was "illegal and null and void." Also, "It is utterly illegal for the US and Japanese governments to include China's Diaoyu Dao and other islands in the so-called area of reversion at the Okinawa reversion agreement. Their act cannot in the least alter the sovereignty of the People's Republic of China over her territory of Diaoyu Dao and other islands."<sup>31</sup>

### Japan's Stand

Japan holds that the Diaoyudaos are Japanese territory. The Japanese arguments are:

Firstly, the ownership of the Diaoyudao Islands had not been established by China, or any other state, up until 1894. In other words, they were *terra nullius* (land belonging to no country). They were discovered by Ryukyu fisherman Tatsushiro Koga in 1884. The Chinese claim of title based on discovery was not validated by effective occupation and control, whereas Japan had established effective occupation and control with the regular trips made to Diaoyu Dao by Tatsushiro Koga. After

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30 "Diplomacy of Contemporary China," *New Horizon Press 1990*, Hong Kong, p. 361.

31 *Ibid.*, p. 241; "Statement of PRC's Ministry of Foreign Affairs, December 30, 1971," *Beijing Review*, January 7, 1972, p. 12.

Koga died in 1918, his son carried on economic activities, and acquired private title in 1926. The casual references to some of the islets in Chinese writings of earlier years cannot, in Japan's view, be taken as evidence of China's territorial right to them, since they merely specified, sometimes indirectly, the boundary of the Ryukyu Islands, not that of China, nor the territorial status of the islands situated between China and the Ryukyu Islands. "It was not until 1895, when the Japanese cabinet decided to incorporate part of the islands into the Prefecture of Okinawa, that the ownership of the islands was first established."<sup>32</sup> Therefore what happened before 1895 cannot diminish Japan's sovereignty over the Islands. A statement issued by the Japanese Foreign Ministry in 1972 said, "In and after 1885, the (Japanese) government repeatedly conducted field surveys on the Senkaku Islands, and having confirmed with prudence that they were not merely uninhabited islands but also had no traces of control by Qing (China), made a cabinet decision on January 14, 1895, to the effect that a marker post would be put up in the Islands, and thus, decided to incorporate them formally into our country's territory."<sup>33</sup>

Secondly, Japan insists that the incorporation of the Diaoyudao Islands was unrelated to the successful progress of the war against China, and the Diaoyudao Islands were not included in the Shimonoseki Treaty signed concluding the Sino-Japanese War by which China ceded to Japan Formosa together with all islands pertaining to it. Japan asserts that "After the Sino-Japanese War, but before the Treaty of Shimonoseki, the Islands were formally annexed to the Ryukyus, and subsequently they have been treated as Japanese territory."<sup>34</sup>

Thirdly, the Diaoyudao Islands were not included in the territories Japan had to give up according to the San Francisco Peace Treaty. When the Ryukyu Islands were placed under the US military administration at the end of the Second World War and subsequently under US trusteeship in accordance with the San Francisco Peace Treaty, the Diaoyudao Islands were always included in the Ryukyu Islands. Furthermore, the

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32 Choon-ho Park, p. 41.

33 See J. R. V. Prescott, p. 54-55.

34 Gerald W. Berkley, p. 4.

Okinawa Reversion Treaty also included the Islands in the areas to be restored. "Under this treaty Japan resumes full—instead of the current residual—sovereignty over the Islands. The concept of residual sovereignty over the Ryukyu Islands has always implied that the ownership of the Diaoyudao Islands ultimately rests with Japan."<sup>35</sup> "Since 1945 Japan has consistently exerted sovereignty over the Diaoyudaos. All challenges to this sovereignty by China have been countered, as required in international law."<sup>36</sup>

### Legal Analyses of the Sovereignty Disputes

With regard to the sovereignty of the Diaoyudao Islands, judging from international law, the claims of China are valid, well-founded, and stronger than those of Japan.

Firstly, the Diaoyudao Islands are not *terra nullius*, and China meets the requirements of "acquisition by discovery." There is no doubt that China discovered the Islands hundreds of years before Japan, and displayed official acts by using the Islands as navigation markers.

The whole controversy hinges on the question whether the Islands had been open to possession before 1895 when the Japanese cabinet made the incorporation decision. Apart from the evidence provided in the early Chinese records and references, it would be highly improbable that a group of islets situated where they are could have remained unnoticed both by China and Japan up to 1884. The Japanese allegation that the Islands were discovered by Tatsushiro Koga in 1884 appears to have now faded away even in Japan. The Imperial Edict issued in 1893 by the Empress Dowager of China is an evidence that the major part of the Diaoyudao Islands had been designated as private property under Chinese law, which represents a legal challenge to the Imperial Ordinance of Japan issued in 1896, since a private appropriation could not be effected if the land were not part of the granter's territorial jurisdiction.

Some people might contradict the principle of "acquisition by discovery" by saying that discoverers only have "inchoate title" and are not

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35 Choon-ho Park, p. 42.

36 Gerald W. Berkley, p. 5.

qualified to have acquisition. But in fact there exists the concept of “intertemporal law” in international arbitration and adjudication, i.e., the interpretation of an international event or the explanation of an international treaty must suit the international law regulation in force at the time the event took place or the treaty was signed, and cannot be judged according to the regulations at the time of evaluation.”<sup>37</sup> This has become an incontestable principle.

We all know that international law was gradually developed in the 17th century, long after the Chinese discovery of the Diaoyudaos. However, the theory of international law still offers guidelines for the settlement of the issue. “In former times, the two conditions of possession and administration, which now make the occupation effective, were not considered necessary for the acquisition of territory through occupation. The taking of possession was frequently in the nature of a mere symbolic act. Later on, a real taking of possession was considered necessary. However, it was not until the 18th century that the writers on the Law of Nations demanded effective occupation, and not until the 19th century that the practice of the States accorded with the postulate.”<sup>38</sup> Thus, China was qualified to acquire the territory of the Diaoyudao Islands at the time of its discovery, and the conditions of possession and administration were not necessary.

Japan insists that the casual references to the islets in the logbooks cannot be taken to have implied their territorial status in favor of China. This argument of Japan appears to be an attempt to apply modern international law to what happened in pre-Grotian (Hugo Grotius, 1583–1645) days. As Professor Choon-ho Park says, “In all fairness, it would be more proper to interpret the old records in the context of their times when there was a relationship of vassalage between China and the Ryukyu Kingdom, instead of weighing them against the rules of modern international law relating to the acquisition of territory. It should also be said to be doubtful whether, under the circumstances of the time, China—or any other state for that matter—was required to make an explicit claim, in the absence of any possibility of dispute, in order to

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37 *Economy and Law*, bimonthly, Hong Kong, June 1988, p. 27. cited from Ian Brownlie, *Principles of Public International Law*, 3rd edition, p. 132.

38 *Ibid.*, pp. 27–28. Cited from Oppenheim-Lanternpacht, 8th ed. Vol. I, p. 558.

ensure her ownership of insignificant outlying islets which were entirely useless except as navigational guides. In the context of the times, therefore, the specific description of the Ryukyu boundary as given in the old writings and maps does provide evidentiary support for the argument that the islets were neither *res nullius* nor *res cummunis*.”<sup>39</sup>

Secondly, Japan’s annexation of the Diaoyudao Islands is closely related to its victory in the Sino-Japanese War and to the usurpation of the Shimonoseki Treaty, and this annexation has no legal effects on sovereignty.

In spite of the Japanese assertion that the Islands were acquired by Japan prior to the signing of the Shimonoseki Treaty, it is irrefutable that the Islands were ceded to Japan in 1895 simultaneously with Taiwan as part of “the islands appertaining or belonging to the said island” of Taiwan. In international law, this seizure cannot be taken as evidence of sovereignty.

The Japanese claim was the direct result of Japanese victory in the Sino-Japanese War. As noted above, Japan hesitated to make this claim for ten years previously, in fear of possible friction with China, despite repeated requests by the Okinawa Prefecture. This hesitation only ended in the eve of China’s defeat in the War. Thus, “It seems necessary to conclude that the Diaoyudao Islands were not open to acquisition in 1895 and that Japan would not have purported to make such an acquisition but for the circumstances of war. Similarly, it seems that the Japanese acquisition would have been contested by China but for the same circumstances.”<sup>40</sup> The legal basis of Japan’s annexation of the Diaoyudaos seems to be founded, at least partly, on the Shimonoseki Treaty, stipulating on the cession of Taiwan and islands appertaining to it. “When Japan admitted that the treaties between Japan and China signed before December 9, 1941, were no longer in force, the Shimonoseki Treaty was certainly included in them. Under such circumstances, at least the partial basis for Japan’s annexation of the Diaoyudaos no longer exists.”<sup>41</sup>

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39 Choon-ho Park, p. 45.

40 Ibid., pp. 45–46.

41 Hungdah Chiu, p. 47.

Thirdly, the inclusion of the Diaoyudao Islands in the Okinawa Reversion Treaty signed between Japan and the US in 1971 cannot be taken as evidence of Japanese sovereignty over the Islands.

Due to the inclusion of the Diaoyudaos into the jurisdiction of the Okinawa Prefecture during Japan's seizure of Taiwan and the Diaoyudaos, the Diaoyudaos were included in the Ryukyu Islands under US occupation in 1945 based on Japan's administrative areas. However, this fact cannot be taken to have created any legal grounds related to the ownership of the Islands. The incorporation of the Diaoyudaos into Okinawa "is a domestic act, and cannot restrict China's rights in recovering lost territory. Otherwise when an aggressor seizes another's territory and changes its administrative authority, the other side would not be entitled to recover the lost territory. How would this be justified?"<sup>42</sup> "It would be more reasonable to regard their inclusion by the United States in the Ryukyu Islands as a necessary administrative expedient which by itself does not affect the issue of their territorial status between China and Japan."<sup>43</sup> The US itself clarified its stand that "a return of administrative rights over these islands to Japan, from which the rights were received, can in no way prejudice any underlying claims"; and that "any conflicting claims to the islands are a matter for resolution by the parties concerned." Moreover, "All claims by Japan based on the San Francisco Peace Treaty of 1951 and the subsequent Okinawa Reversion Treaty of 1971 could be challenged on the basis of the PRC's consistent denial of the legality of those treaties and actions taken under those treaties."<sup>44</sup>

Regarding the relationship between the Diaoyudao Islands and the Ryukyu Islands, at the Pacific War Council held in the White House on January 12, 1944, Roosevelt said that he had already consulted Stalin, and that "Stalin, who is familiarized with the history of the Ryukyus, fully agrees that the Ryukyus belong to China and should return to China."<sup>45</sup>

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42 Ibid.

43 Choon-ho Park, p. 42.

44 Gerald W. Berkley, p. 5.

45 See "Foreign Relations of the United States, Diplomatic Papers: the Conference

The Diaoyudao Islands in fact already separated themselves from Japan's control after being occupied by the US troops in April 1945. After Japan accepted the Potsdam Proclamation and was committed that confinement of its territory to four big islands and other islets had been decided by the Allies, the Ryukyus and the Diaoyudao Islands were totally separated from Japan from the point of international law. The so-called "residual sovereignty" Japan had over the Ryukyus and Diaoyudaos as said by the US and Japan is not tenable legally. With the abrogation of the Shimonoseki Treaty and the restoration of Taiwan to China, it should be said that China's sovereignty over the Diaoyudaos was regained; this sovereignty in form, however, was not yet restored due to US occupation of the Islands. With the end of US occupation, China ought to have restored its sovereignty over them.

### **Relevant Maritime Jurisdictional Claims**

The Disputes over the Diaoyudao Islands are to a great extent involved in relevant maritime jurisdictional rights and interests, with which the exploitation of marine resources is directly interrelated.

Firstly, there exist differences in regard to the principles of the delimitation of the continental shelf. There are stipulations in the international law, but they themselves are a bit of confusion and ambiguity, causing different interpretations and emphases.

The 1958 Geneva Convention on the Continental Shelf adopts the 200-meter depth criteria. The 1982 UN Convention on the Law of the Sea, which will soon go into effect after being ratified by 60 countries, adopts a new definition and defines a 200 nautical-mile limit. Now, the scope of the continental shelf is the same as that of the EEZ (Exclusive Economic Zone). It stipulates that the continental shelf of a coastal state comprises the sea-bed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to (1) the outer edge of the continental margin, or (2) a distance of 200 nautical miles from the baselines from which the breadth of the

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of Berlin (The Potsdam Conference), 1945, Washington, DC," Government Printing Office, 1960, pp. 1474-76.

territorial sea is measured, where the outer edge of the continental margin does not extend up to that distance. (Article 76:1)

Where the outer edge of the continental margin does extend beyond 200 nm, it stipulates that there are two ways to delimit the scope of the continental shelf. One is to extend to 350 nm from the baselines from which the breadth of the territorial sea is measured; the other is to extend to 100 nm from the 2,500 meter isobar, a connecting line denoting the depth of 2,500 meters. (Article 76:5)

Countries concerned apply different principles of international law. China adheres to the natural prolongation of the land territory. "The East China Sea continental shelf is the natural extension of the Chinese continental territory. The People's Republic of China has inviolable sovereignty over the East China Sea continental shelf."<sup>46</sup> The Taiwan authorities of China also adhere to natural prolongation of land territory. South Korea, a related claimant as well in the East China Sea, while adhering to the median line principle in the Yellow Sea, adheres to natural prolongation of land territory in the East China Sea, and extends its claims "as far south as 28° 36" of the northern latitude, over 250 miles from the nearest Korean territory, considerably beyond the 200 meter contour line into the Okinawa Trough"<sup>47</sup> in its mining blocks. Japan on the contrary, stands for the 200 nm limit for the continental shelf, and tries to include the Diaoyudaos in the scope of its own continental shelf.

The existence of the Okinawa Trough, moreover, further increases the complexity. The trough issue has always been a controversial issue, threatening any effort to define the continental shelf in legal terms. The East China Sea is shallow, its sea-bed sloping gently from the Chinese coast, and to a lesser extent, from the Korean coast, until it drops abruptly into the Okinawa Trough whose depth reaches nearly 2,300 meters at its deepest. The Okinawa Trough does not follow the Japanese coast closely, and is highly irregular.

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46 "Statement by the Chinese Ministry of Foreign Affairs, June 13, 1977," *Beijing Review*, June 17, 1977, p. 17.

47 Choon-ho Park, "East Asia and the Law of the Sea," Seoul National University, 2nd edition, 1985, p. 11.

China holds that the Okinawa Trough proves that the continental shelves of China and Japan are not connected, that the Trough serves as the boundary between the two countries, and thus that the Trough should not be ignored. Japan, on the other hand, holds that the Trough is just an incidental depression in a continuous continental margin between the two countries, that its 200 nm continental shelf claim is not to be affected, and that any legal effect of the Trough should be ignored as a limiting factor in the delimitation of the East China Sea continental shelf. From the viewpoint of international law, China's stand seems more justified than that of Japan.

Secondly, differences exist with regard to the maritime rights of the islands. Because the geographical features of islands are so diverse that no single standard meets the common interests of the majority of states, the legal status of islands in the delimitation of a continental shelf boundary has in fact not been fully resolved. The 1982 UN Convention on the Law of the Sea stipulates that "Rocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf" (Article 121:3), and apart from that, the territorial sea, the contiguous zone, the exclusive economic zone and the continental shelf of an island "are determined in accordance with the provisions of this Convention applicable to other land territory." (Article 121:2) These stipulations are vague and rather ambiguous. They exacerbate conflicting claims on the ownership of islands, since islands are more or less entitled to have jurisdictional rights as other land territory; difficulties are increased in identifying whether or not an island can sustain human habitation or economic life. All eight islets of the Diaoyudaos are certain to have 12 nm territorial sea and 12 nm contiguous zone, but whether they are also entitled to have an EEZ and continental shelf remains an issue.

China holds that the Diaoyudao Islands are small, uninhabited, and cannot sustain economic life of their own, and that they are not entitled to have a continental shelf. China's Taiwan also holds that "The Diaoyudao Islands themselves are not entitled to have a continental shelf or EEZ, and thus have no significant legal effects on the boundary delimitation in the East China Sea."<sup>48</sup> Japan holds that the Islands are

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48 Ma Ying-jiu, *New Law of the Sea vis-à-vis the Diaoyudao Islands and the*

entitled to have continental shelf and intends to use them as base points for continental shelf claims on the East China Sea.

It seems that the Japanese stand is inconvincible under international law. As Dr. Mark Valencia says, "Because the islands are not economically self-sustaining, they may not be eligible as base points for claiming a continental shelf. Further, most bilateral treaties ignore the effect of small islands in boundary delimitation."<sup>49</sup>

Thirdly, differences exist regarding the principles of boundary delimitation. The related stipulations in international law are rather general. It stipulates the delimitation of the continental shelf between states with opposite or adjacent coasts shall be effected by agreement in conformity with international law. Such an agreement shall be in accordance with equitable principles, employing the median or equidistance line, where appropriate, and taking account of all circumstances prevailing in the area concerned. (Article 83:1)

China holds that the delimitation should be mainly effected by agreement, and that agreement through consultation precedes the median line principle. "The median or equidistance line is a method of delimitation, and shall only be applied under the condition of equitable principle. The principle of equity is a recognized principle of international law, which has not only been confirmed by numerous international documents but has also been affirmed by important international cases on the delimitation of maritime boundaries"<sup>50</sup> Any unilateral delimitation employing the median line principle does not count. South Korea insists that "the presence of the [Okinawa] Trough constitutes special circumstances under which the median line principle cannot be applied."<sup>51</sup> Japan stands for the median line principle by insisting on ignoring the Okinawa Trough, and holds the median line to be the appropriate boundary.

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Delimitation of the East China Sea, Zhengzhong Publishing House, Taipei, p. 266. Cited by Fu Kuen-chen, *International Law and China, a Collection of Essays*, Taiwan, 1991, p. 223.

49 *Far Eastern Economic Review*, March 31, 1988, p. 30.

50 *People's Daily*, Beijing, August 26, 1980.

51 Choon-ho Park, "East Asia and the Law of the Sea," p. 28.

The median line principle is not of certain binding effect. It is only in the absence of an agreement, and unless justified by special circumstances, that the median line principle can be applied. "Clearly, blind application of the (median line) principle in disregard of the Trough would amount to a violation of the general rule of adjacency implicit in Article 1 of the Continental Shelf Convention as interpreted by the International Court of Justice. Japan seeks to justify such a violation by appealing to equity and to the binding force of the median line principle. On both counts, Japan seems to be on rather weak legal ground. Equity is, of course, a vague concept, particularly in the already somewhat fussy world of international law. Moreover, it is doubtful that mere geographical accident can give rise to inequity."<sup>52</sup> Thus, Japan's legal argument that the median line principle should be applied and the Okinawa Trough be ignored so as not to yield her sovereignty over larger areas of the East Asian sea-bed would seem to be of dubious merit.

### **Options for Settlement**

The Diaoyudao disputes have been shelved since the normalization of relations between China and Japan in 1972. In spite of sporadic tensions over the Islands over the last two decades, shelving the disputes has proved to be a good approach, having not affected the overall relationship. However, the shelving of the disputes is only an expedient measure, and a negotiated solution is needed when conditions mature.

Now the conditions for solution are being perfected. On the one hand, economic development has become the primary task of each nation, and the need for marine resources is increasing. The global demand for oil will eventually outstrip supply, and the East China Sea is thought to contain ten to one hundred billion barrels of oil. On the other hand, the improvement of political relations among regional countries and the development of regional economic, political and security cooperation provide greater opportunities for the settlement of disputes. Confidence between China and Japan has been enhanced, diplomatic recognition between China and the Republic of Korea has been established, and

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52 Ibid., p. 30.

relations between the two sides of Taiwan Strait have greatly developed. It seems that the time is more or less ripe for parties related to the Diaoyudaos disputes to meet and discuss a settlement.

There could be three options for the settlement. Option one is to come to an agreement on the boundary delimitation through negotiations in a spirit of mutual understanding and mutual accommodation. China and Japan could work out a compromise firstly on the continental shelf delimitation between China's adherence to natural prolongation of land territory and Japan's adherence to the 200 nm limit and its insistence on the median line principle; secondly on the factor of the Okinawa Trough between China's insistence to consider it and Japan's insistence to ignore it; and thirdly on the entitlement of the Diaoyudao Islands between China's denial of their continental shelf claims and Japan's stand for taking these islands as base points for continental shelf claims. There could be give and take during the negotiations, and when one side makes a concession in one part, it might gain compensation in another part. There was a suggestion that "Using the coastline ratio derived from the respective length of the eastern China and Ryukyu shores, the equidistant line boundary could be adjusted . . . in a 64:36 ratio in favor of China,"<sup>53</sup> which might be considered.

Option two is to agree to put this issue to the International Court of Justice for arbitration or to accept other forms of third-party involvement. Asian countries such as China and Japan are not accustomed to appeal to the international court, but arbitration or adjudication can be regarded as a method of settlement, and it would be better than indefinite procrastination. There have been numerous precedents in this respect, and in general its decisions so far have been equitable and have been respected by the countries concerned. For example, the disputes over the Beagle Channel between Argentina and Chile lasted for 150 years, and was finally settled in 1984 through third-party mediation.

Option three is to work for joint development in the disputed areas. This looks to be the most feasible approach at present. The settlement of the Diaoyudao disputes should not be prerequisite to the development of resources. Although these sea areas around the Diaoyudao Islands seem of low prospect in oil and gas reserves, these areas and those in

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53 *Far Eastern Economic Review*, March 31, 1988, p. 31.

the disputed continental shelf areas do have other good possibilities. Anyway, they are abundant in other minerals and fishery resources. Exploitation of resources should not be delayed by jurisdictional disputes.

Overlapping zones of continental shelf claims by each related party should be firstly specified. In this case, a good idea would be that the "The region could be divided into north and south zones along latitude 30 degrees north, which bisects the East China Sea east to west, passing just south of Shanghai and the southernmost main island of Japan."<sup>54</sup> In the north zone, China's and South Korea's claims based on natural prolongation and Japan's claim based on the equidistance principle for 200 nm rights could be relatively easily figured out, as Japan and South Korea have since 1974 already exercised a joint development zone. The three sides could then work out arrangements for joint sharing of profits and losses in the overlapping areas.

In the south zone the specification of overlapping zones would be a bit difficult. There are three factors affecting the delimitation, i.e., whether the Okinawa Trough should be ignored, whether the Diaoyudao Islands be entitled to have continental shelf claims, and to whom the Diaoyudao Islands belong. One might first work out the overlapping zone between China's stand of natural prolongation by taking the Okinawa Trough into consideration and Japan's stand of the median line principle for 200 nm rights by ignoring the Okinawa Trough. Then one might further work out the effects of the Diaoyudao Islands on the overlapping zone including the islands' ownership and their having or not having continental shelf claims.

When the overlapping zones in the south portion are specified, China and Japan could get together for joint development negotiations. They could discuss conducting a joint assessment of the petroleum resources in the area and launching a full-scale joint development zone program. Protection of the marine environment, the conservation of living resources and joint inter-fishing regulations could also be included in the talks. Insofar as China's Taiwan is related, arrangements could be made between China's mainland and Taiwan. Joint development in the East China Sea might be included in the talks between them.

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54 Ibid., p. 30.

The exploitation of resources and development of the economy are common needs of the people of the world. Economic needs and cooperation should take precedence over sovereignty disputes. With the coming into force of the UN Convention of the Law of Sea, it is necessary for the coastal states of the troubled waters to review their maritime relations with one another toward joint efforts. It is hoped that the parties in dispute over the Diaoyudao Islands will soon join hands for joint development in a spirit of cooperation and mutual accommodation.



**Annex 705**

Barry H. Dubner, "The Spratly 'Rocks' Dispute - A 'Rockapelago' Defies Norms of International Law",  
*Temple International & Comparative Law Journal*, Vol. 9, No. 2 (1995)



## THE SPRATLY “ROCKS” DISPUTE — A “ROCKAPELAGO” DEFIES NORMS OF INTERNATIONAL LAW<sup>1</sup>

*Dr. Barry Hart Dubner* †

### INTRODUCTION

One cannot pick up a newspaper it seems without seeing the occasional reference to the dispute over jurisdictional title to the Spratly “Rockapelago.” To date, the latest appearance was in the *New York Times* on April 5, 1995.<sup>2</sup> The news account of the Spratly “dispute” reflected an increase in hostilities among the interested parties. The past loss of life and the potential for future conflict underscores the seriousness of the Spratly situation.

Recent events in this dispute include the Philippines announcing that it had destroyed certain territorial markers of the People’s Republic of China (hereinafter China) which appeared on “several of the islands” and seized four Chinese trawlers.<sup>3</sup> In addition, the Vietnamese accused “Taiwan of firing on Vietnamese transport ships that came near the largest of the Spratlys.”<sup>4</sup> In February 1995, the Philippines accused the “Chinese of building a military style structure on top of . . . Mischief reef, which lies 135 miles west of the Philippine island of Palawan.”<sup>5</sup> The Philippines had not answered China’s demand “for the freedom of 62 fishermen who were aboard five boats allegedly carrying 80 endangered sea turtles and hundreds of sticks of dynamite in the holds of the boats.”<sup>6</sup>

Why all the controversy over turtles and dynamite? Are nations finally coming to grips with saving the environment for current and future persons? The dispute is over hydrocarbon resources and freedom of navigation through commercial international shipping routes and fisheries.

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1. “Rockapelago” is a term used by Professor Dubner that is utilized throughout this article to demonstrate that law of the sea concepts are mostly inapplicable if their use simply does not resolve the disputes. Additionally, there are two accepted spellings, Spratlies and Spratlys, for the plural of Spratly; this author adopts the latter. Special thanks to my research assistant, Sharon A. Zink and to my secretary, Jill Pullum.

2. Philip Shenon, *Rival Claims to Island Chain Bring Edginess to Asia’s Rim*, N. Y. TIMES, Apr. 5, 1995, at A11.

3. *Id.*

4. *Id.*

5. *Id.*

6. *Id.*

Each of the six countries<sup>7</sup> involved has laid claim to the Spratly rocks so they may exploit the resources lying below these uninhabitable, hostile rocks, shoals, coral reefs, and "islands."<sup>8</sup> Malaysia is the only country which has expressed any interest in preserving the resources for the "common heritage of mankind!"<sup>9</sup> Each country, however, is afraid that China is beginning to assert itself in the region by making fallacious claims to the Spratly Rockape-lago under their own theories of international law.<sup>10</sup> Each of the remaining five countries makes its valid claim to part of the islands or continental shelf.<sup>11</sup> In this article, a regional compromise and accord is proposed in order to resolve the disputes peacefully.

This compromise would not declare who is right or wrong. The purpose of this paper is to discuss the problems of applying traditional international norms to the Spratly Island dispute. In order to set forth these problems, it will first be necessary to describe the geography of the Spratly Islands, their location, physical composition, what exactly is disputed, why, and by whom. Basic law of the sea terminology will be discussed to aid in the description of jurisdictional problems. This discussion will be followed by an explanation of why traditional jurisdictional concepts are impossible to apply to this dispute. International claims by the competing countries will be explored both historically and by discussion of various commentators, questions, and theories about these disputed claims. The main focus of this article centers on the question of whether any nation has any sovereign right to the hydrocarbon deposits believed to be lying beneath the sea adjacent to these rock, shoals, or inlet formations. The final section of the article discusses whether a "regional" or "common heritage of mankind" approach should be used to resolve this dilemma. Various approaches to the main problem will also be discussed and questioned. Furthermore, non-resource allocation, a major concern due to the navigational rights that could be diminished improperly, will be explored. Before discussing these matters further, let us now review what the Spratly Islands are in terms of description and where they are located.

## II. THE VARIOUS GEOGRAPHICAL DESCRIPTIONS

The reader will observe that certain Spratly Islands increase or decrease in size depending on the source of the description.<sup>12</sup> According to one commentator,<sup>13</sup> the "Spratlys lie 900 miles south of the Chinese island of Hainan,

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7. China, Taiwan, Vietnam, Philippines, Malaysia, and Brunei.

8. *See infra* note 23, at 426-27.

9. B.A. HAMZAH, INST. OF STRATEGIC AND INT'L STUDIES, THE SPRATLIES: WHAT CAN BE DONE TO ENHANCE CONFIDENCE 29, 36 (Malaysia 1990) [hereinafter HAMZAH, THE SPRATLIES].

10. *See infra* note 23, at 434-35.

11. *See infra* note 45.

12. *See infra* notes 14, 15, 17-22 and accompanying text.

13. Lee G. Cordner, Director of Naval Warfare, Maritime Headquarters (Australia), Garden Island, New South Wales 2000, Australia.

230 miles east of the Vietnamese coast, 120 miles west of the Philippine island Palawan, 150 miles northwest of the Malaysian State of Sabah; and they cover an area of approximately 150,000 square miles."<sup>14</sup> The description continues:

The Spratlys are separated from the continental shelves of China and Taiwan by a 3,000-meter trench to the north and northeast and from the Philippines, Brunei, and Sabah (Malaysia) by the East Palawan Trough. The area is poorly surveyed and marked as "Dangerous Ground" on navigation charts. The largest island, Itu Aba, is 0.4 square miles in area, and Spratly Island is 0.15 square miles.<sup>15</sup>

Another description of the Spratlys includes coordinates and also discusses various claims that were being made at the time of the writing. The Spratlys are "an area bounded by 4 degrees and 11 degrees 30' North and, 109 degrees 30' and 117 degrees 50' East . . . ."<sup>16</sup> The areas are divided into twelve regions:

- (1) The North Danger comprising the Northeast Cay and the Southwest Cay. According to one report the latter has been occupied by Vietnam since 1974.
- (2) Thitu Island and reefs; the chief foothold of the Philippines in the area.
- (3) West York Island (the Philippine name is Likas).
- (4) Loai Ta Island and reefs (the Philippine name is Kota).
- (5) Irving Cay (the Philippine name is Balagta).
- (6) Nanshan Island (currently occupied by the Philippines which has named it Lawak).
- (7) Tizard Bank and reefs (North of Union Bank Group, Nam Yit Island and Sand Cay). The biggest island is Itu Aba with an area of about 89 acres and has been occupied intermittently by Taiwan since 1949. Taiwan has reportedly deployed some 600 marines on the island. Nam Yit is now occupied by Vietnam.
- (8) Union Bank and reefs. One of the islands in the Group, Sin Cowe, was occupied by Vietnam from 1975 to March 1988. The March 14, 1988, incident took place in its vicinity. Sin Cowe, Gaven, and Caman are now occupied by the PRC.
- (9) Spratly Island proper (Trung-sa, in Vietnamese). The island is currently occupied by Vietnam and is about 75 metres long and 400 metre [sic] wide, covered with short green vegetation. With its landing strip, it is considered Vietnam's most strategic outpost in the South China Sea and acts as a forward base for Vietnamese activities on Amboyna Cay and many other islands in the area. Cuarteron Reef and Fiery Cross (West Investigator Reef), two

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14. Lee G. Cordner, *The Spratly Islands Dispute and the Law of the Sea*, 25 OCEAN DEV. & INT'L L. 61 (1994) (citing Dato' Haji Mohammad Ali bin Alwi, *Conflicting Claims in the South China Sea*, ASIAN DEF. J. 10 (June 1992)).

15. *Id.* at 61.

16. HAMZAH, *THE SPRATLIES*, *supra* note 9, at 29 (citing DIETER HEINZIG, INST. OF ASIA AFFAIRS, *DISPUTED ISLANDS IN THE SOUTH CHINA SEA* (Hamburg 1976)).

prominent reefs off the main Spratly Island, were separately occupied by PRC troops on January 18 and 20, 1988.

(10) Commodore Reef (Terumbu Laksamana or Rizal Reef), claimed by Malaysia, the Philippines, the PRC, and Taiwan.

(11) Amboyna Cay, claimed by Malaysia and Vietnam and also by the PRC and Taiwan. In 1978, a troop of Malaysian Engineers landed on the island. As it was not occupied, the Malaysian soldiers planted a small monument stone alongside an existing one. The Vietnamese returned to the island in 1979 and removed the Malaysian marker stone and have not left the island since. Amboyna Cay is now the most heavily fortified Vietnamese forward outpost in the Spratlies. The Vietnamese have also expanded naval and air facilities on this island.

(12) Mariveles Reef (Terumbu Mantanani), currently occupied by Malaysia and claimed by the PRC, Taiwan and the Philippines. Malaysia has also occupied two other reefs—Swallow Reef (Layang-Layang) and Terumbu Ubi (Ardasier Reef), both south of Mariveles.<sup>17</sup>

Other sources are contained in the many newspaper accounts of the disputes. The various descriptions state the following:

— there are “21 islands and atolls, 50 submerged land splits and 28 partly submerged bits of coral and rock that comprise the islands in an area that covers 340,000 square miles.”<sup>18</sup>

— the chain stretches “550 miles north to south, about 360 miles from Vietnam and 550 miles from China’s Hainan Island . . . consisting of archipelagos, [which] are mainly coral reefs, some barely inches above water.”<sup>19</sup>

— “[t]he largest island is only 1.2 kilometers long (.75 miles) and a mere 336 meters (1100 feet) wide.”<sup>20</sup>

— “[s]pread over 65,000 square miles of the South China Sea, [only 33 of the 1,000 bits and pieces qualify as actual islands] . . . they are 250 miles southeast of the former United States military base at Cam Ranh Bay, Vietnam, and 600 miles south of China Hainan Island.”<sup>21</sup>

— “[the chain] . . . consists of a group of 33 islands, and more than 400 islets and atolls.”<sup>22</sup>

According to another author:

[t]he Spratly Islands lie in the South China Sea more than 500 miles from the southern edge of the Chinese mainland. The chain

17. *Id.*

18. Patrick E. Tyler, *China Pledges Safe Passage for All Foreign Ships Around Contested Islands*, N.Y. TIMES, May 19, 1995, at A11.

19. The Reuter Library Report, Mar. 17, 1988 available in LEXIS, Nexis Library, REUWLD File.

20. Peter Goodspeed, *Five Nations Face off over Oil-rich Isles*, THE TORONTO STAR, Jun. 16, 1991, at H1.

21. *Spratlys Next Sino-Viet Flash Point*, UPI, Aug. 1, 1988, available in LEXIS, Nexis Library, UPI File.

22. Mike Yeong, *China’s New Assertiveness*, BUS. TIMES, Aug. 27, 1992, at 3.

stretches approximately 500 miles from north to south and 400 miles from east to west of the more than 500 separate land masses making up the Spratlys, only 100 [islands] have been named. Many of the islands are almost entirely underwater.<sup>23</sup>

The descriptions vary, but according to one source, "[o]f the twenty islands that protrude above sea level at high tide, the largest, the Taiping Island, also known as Itu Aba Island, is only 0.43 square kilometers in area."<sup>24</sup> This size is not as incredulous as the fact that "[t]he islands have no permanent inhabitants, [no sweet water] and are too small to sustain permanent, independent settlements."<sup>25</sup> Even though the islands are too small to sustain permanent settlements, the islands are covered by "bushes and guano, as well as by a few coconut and plantation trees."<sup>26</sup> A few "[f]ishermen from nearby countries occasionally visit the islands to benefit from the rich fishing available and to collect turtle shells, bird eggs, seaweed, and guano."<sup>27</sup>

The aforementioned references to size of "islands" and habitability or economic use will become very important when analyzing the various jurisdictional and international law terminology of the law of the sea.

### III. THE UTILIZATION OF THE SPRATLY ISLANDS—THEIR IMPORTANCE TO THE INTERNATIONAL COMMUNITY

The Spratly Islands' importance to the international community lies in their location in the South China Sea. The area surrounding the islands serves as "an important link in many major international shipping routes."<sup>28</sup> The area connects:

the East China Sea and the Sea of Japan in the north. It forms part of the route for ships traveling between the Indian Ocean and the Russian port at Vladivostak. The area surrounding the Spratlys also includes the path of oil tankers going to or from Japan and the Middle East. Moreover, all of the trading economies in East Asia depend on the South China Sea because it forms part of the shortest route to Southeast Asia, Africa, the Middle East, and Europe. By taking control of the Spratlys, the PRC could legally place many vital sea-lanes under its territorial control.<sup>29</sup>

As far as the community of nations is concerned, the most important aspect of this dispute is its effect on international shipping routes.

The two resource problems are important because of their potential to become bigger problems. The probability of intense concentration of hydro-

23. Michael Bennett, *The People's Republic of China and the Use of International Law in the Spratly Islands Dispute*, 28 STAN. J. INT'L L. 425, 429-30 (1992).

24. *Id.* at 429-30 n.18.

25. *Id.* at 430.

26. *Id.*

27. Bennett, *supra* note 23, at 430; *see also* Shenon, *supra* note 2, at A11. The *New York Times* article states that Philippino investigators discovered 80 endangered sea turtles in the hold of the boat which was seized by the Philippines. *Id.*

28. Bennett, *supra* note 23, at 431.

29. *Id.* at 431-32 (footnote omitted).

carbon resources on the sea-bed could lead to serious conflict between two of the six interested countries at the very least.<sup>30</sup> In turn, other nations could be drawn into the dispute due to other considerations such as the increased aggressiveness of regional powers. The South China Sea is rich in fishing resources<sup>31</sup> and could be plundered as populations and greed increase proportionately in the region.

Philosophically, a fundamental problem exists concerning the implications for the usefulness of regional approaches to problems. Is it better to encourage regional solutions to jurisdiction and control, exploitation of resources, and sovereignty at the expense of the common heritage of mankind? Before discussing the claims of the six nations involved, it is important to set forth the basic law of the sea and international law concepts that are involved in the dispute.

#### IV. BASIC LAW OF THE SEA JURISDICTIONAL CONCEPTS

There is a difference between coastal state jurisdiction and that of islands, rocks, or mid-ocean archipelagic islands and states. For purposes of this discussion, these concepts can be illustrated by using a jurisdictional schematic diagram (see Appendix 1 Diagram).

##### A. Coastal State Jurisdiction

Although the 1982 Law of the Sea Convention (LOS Convention) has not yet come into force, fifty-six of the necessary sixty state signatures had been obtained as of June 1993.<sup>32</sup> The six nations involved in the Spratly dispute had ratified the Convention by 1983.<sup>33</sup>

The main concept regarding coastal state jurisdiction is that the jurisdiction diminishes as it goes seaward.<sup>34</sup> The coastal state has the utmost jurisdiction over its land and inside of the baseline.<sup>35</sup> Except for the doctrine of innocent passage,<sup>36</sup> the same land-based jurisdiction exists over the territorial sea which extends twelve miles from the baseline.<sup>37</sup> As we go further from

30. Cordner, *supra* note 14, at 61.

31. Bennett, *supra* note 23, at 430.

32. Cordner, *supra* note 14, at 62.

33. THE LAW OF THE SEA, OFFICIAL TEXT OF THE UNITED NATIONS CONVENTION ON THE LAW OF THE SEA WITH INDEX AND FINAL ACT OF THE THIRD UNITED NATIONS CONFERENCE ON THE LAW OF THE SEA at 190, U.N. Doc. A/CONF.62/122, U.N. Sales No. E.83.V.5 (1983) [hereinafter LAW OF THE SEA CONVENTION].

34. *Id.* pt. II, art. 2-4.

35. *Id.* pt. II, art. 5. Article 5 states: "Except where otherwise provided in this Convention, the normal baseline for measuring the breadth of the territorial sea is the low-water line along the coast as marked on large-scale charts officially recognized by the coastal State." *Id.*

36. THOMAS J. SCHOENBAUM, ADMIRALTY AND MARITIME LAW (1987). The doctrine of innocent passage is defined as "[t]he legal right to navigat[e] through the territorial sea by ships of all states . . ." *Id.* § 2-21.

37. LAW OF SEA CONVENTION, *supra* note 33, pt. II, arts. 3-4. Article 3 states: "Every State has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baselines determined in accordance with this Convention." *Id.* pt. II, art. 3.

the baseline, the contiguous zones are measured twenty-four miles from the baseline.<sup>38</sup> The contiguous zone is not part of the territorial sea-bed and thus part of the high seas, although the jurisdiction of the coastal state is limited in scope.<sup>39</sup> The last area of significance is the exclusive economic zone which extends two hundred miles from the baseline and is part of the high sea.<sup>40</sup> The coastal state has very limited jurisdiction in this area which is used to regulate fishing and other economic rights.<sup>41</sup> The high seas are beyond a state's jurisdiction because of traditional freedoms of the high seas, especially navigation rights.<sup>42</sup>

Some nations have continental shelf areas which are extensions of coastal land masses under water.<sup>43</sup> These coastal areas of the countries that have continental shelf areas find that their breadth vary in size.<sup>44</sup> The "legal"

Article 4 states: "The outer limit of the territorial sea is the line every point of which is at a distance from the nearest point of the baseline equal to the breadth of the territorial sea." *Id.* pt. II, art. 4.

38. *Id.* pt. III, art. 33. Article 33 states:

1. In a zone contiguous to its territorial sea, described as the contiguous zone, the coastal State may exercise the control necessary to:
  - (a) prevent infringement of its customs, fiscal, immigration or sanitary laws and regulations within its territory or territorial sea;
  - (b) punish infringement of the above laws and regulations committed within its territory or territorial sea.
2. The contiguous zone may not extend beyond 24 nautical miles from the baselines from which the breadth of the territorial sea is measured.

*Id.*

39. *Id.*

40. *Id.* pt. V, art. 56. Article 56 states:

1. In the exclusive economic zone, the coastal State has:
  - (a) sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the sea-bed and of the sea-bed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds;
  - (b) jurisdiction as provided for in the relevant provisions of this Convention with regard to:
    - (i) the establishment and use of artificial islands, installations and structures;
    - (ii) marine scientific research;
    - (iii) the protection and preservation of the marine environment; and other rights and duties provided for in this Convention.
2. In exercising its rights and performing its duties under this Convention in the exclusive economic zone, the coastal State shall have due regard to the rights and duties of other States and shall act in a manner compatible with the provisions of this Convention.
3. The rights set out in this article with respect to the sea-bed and subsoil shall be exercised in accordance with Part VI.

*Id.*

41. *Id.* Examples of economic rights include right to explore and exploit the natural resources of the waters superjacent to the sea-bed, in the sea-bed, and its subsoil and the right to produce energy from the water, currents, and winds.

42. *Id.* pt. V, art. 58.

43. See LAW OF THE SEA CONVENTION, *supra* note 33, pt. VI, art. 76.

44. *Id.*

continental shelf is described in the 1982 LOS Convention and extends from "shelf" to "slope" to "rise" (the continental margin) down into the deep sea-bed where historically no nation enjoys jurisdiction.<sup>45</sup>

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45. *Id.* pt. VI, art. 76. Article 76 states:

1. The continental shelf of a coastal State comprises the sea-bed 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 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.

2. The continental shelf of a coastal State shall not extend beyond the limits provided for in paragraphs 4 to 6.

3. The continental margin comprises the submerged prolongation of the land mass of the coastal State, and consists of the sea-bed 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.

4. (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.

5. The fixed points comprising the line of the outer limits of the continental shelf on the sea-bed, drawn in accordance with paragraph 4(a)(i) and (ii), either shall not exceed 350 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.

6. Notwithstanding the provisions of paragraph 5, on submarine ridges, the outer limit of the continental shelf shall not exceed 350 nautical miles from the baselines from which the breadth of the territorial sea is measured. This paragraph does not apply to submarine elevations that are natural components of the continental margin, such as its plateaux, rises, caps, banks and spurs.

7. 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.

8. Information on the limits of the continental shelf beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured shall be submitted by the coastal State to the Commission on the Limits of the Continental Shelf set up under Annex II on the basis of equitable geographical representation. 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 the basis of these recommendations shall be final and binding.

9. The coastal State shall deposit with the Secretary-General of the United Nations charts and relevant information, including geodetic data, permanently describing the outer limits of its continental shelf. The Secretary-General shall give due publicity thereto.

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

For the purposes of this discussion, mid-ocean archipelagic states can be described as political and geographic entities (i.e., states). According to the 1982 LOS Convention, these states can restrict areas as provided, but they may not disturb the status of the shipping lanes as they existed before the archipelagic state concept was created and embodied in the 1982 LOS Convention.<sup>46</sup>

The important aspect of all of this law of the sea information originates from the concept that mid-ocean archipelagoes are comprised of "islands," "rocks," "shoals," "low-lying" reef areas, etc.<sup>47</sup> The thrust of the law of the sea, as applied to the Spratly Island dispute, is that there are no correct jurisdictional claims based on law of the sea concepts or if any claims do exist, then they may be limited geographically. An understanding of the definition of "island"<sup>48</sup> and "rock"<sup>49</sup> is necessary to comprehend this notion. For example, islands have their own territorial seas, continental shelves, economic zones, etc.<sup>50</sup> On the other hand, if we are talking about lesser formations, such as rocks, jurisdictional zones do not exist.<sup>51</sup> Furthermore, in the Spratly Island dispute, nations may well be arguing over jurisdiction over a mid-ocean archipelago or "rockapelago" depending on interpretations. Before discussing the ramifications of this problem, let us review the applicable law of the sea with regard to islands and lesser formations.

You may recall that the largest "island" of the twenty "islands" that protrude above sea level at high tide is Taiping (also known as Itu Aba Island) with an area of 0.43 square kilometers.<sup>52</sup> Without external assistance, the islands have no permanent inhabitants and are too small to sustain permanent, independent settlements.<sup>53</sup> Most of them are covered by bushes, guano, a few coconut, and plantation trees.<sup>54</sup> Some of the six nations are attempting to enhance international claims by building airstrips,<sup>55</sup> harbors and other defense structures, fishing enterprises, lighthouses and harbors,

*Id.*

46. *Id.* pt. IV, arts. 46-54.

47. *Id.* pt. IV, arts. 46-48.

48. *Id.* pt. VIII, art. 121(1)-(2). Article 121(1)-(2) states:

(1) An island is a naturally formed area of land, surrounded by water, which is above water at high tide.

(2) Except as provided for in paragraph 3, the territorial sea, the contiguous zone, the exclusive economic zone and the continental shelf of an island are determined in accordance with the provisions of this Convention applicable to other land territory.

*Id.*

49. *Id.* pt. VIII, art. 121(3). Article 121(3) states, "Rocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf." *Id.*

50. *See supra* note 48.

51. *See supra* note 49.

52. Bennett, *supra* note 23, at 429-30.

53. *Id.* at 430.

54. *Id.*

55. *See Cordner, supra* note 14, at 64.

and a "tourist resort"<sup>56</sup> of sorts. Against this background, the concept of an "island" under treaty law has developed to the current definition under the 1982 LOS Convention. Before discussing the current status, a review of the pertinent terminology (e.g., island and rock) is necessary.

According to E. D. Brown, "long before the concept of a legal continental shelf was received into international law . . ." efforts were made to define "island" in order to make sure that smaller bodies, such as rocks and uninhabitable islets, could not be used as a yardstick to measure independent territorial sea and other maritime zones around them.<sup>57</sup> Brown points out that this objective was not achieved until 1982 when the "radically new 'regime of islands' [was] embodied in Part VIII [Article 121] of the U.N. Convention."<sup>58</sup> Prior thereto, and under the rules of the Geneva Convention on the Continental Shelf 1958, Article 1 provided:

For the purpose of these Articles, the term 'continental shelf' is used as referring (a) to the sea-bed and subsoil of the submarine areas adjacent to the coast but outside the area of the territorial sea, to a depth of 200 metres or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources of the said area; (b) *to the sea-bed and subsoil of similar submarine areas adjacent to the coasts of islands.*<sup>59</sup>

The reader will observe that although the word "island" is not defined in this Article, the term is defined in Article 10(1) of the Geneva Convention on the Territorial Sea and Contiguous Zone, 1958, as a "naturally formed area of land, surrounded by water, which is above water at high tide."<sup>60</sup> An "island" did not need to qualify in any other manner in order to have a continental shelf.<sup>61</sup> It did not need to be a certain size, be habitable, or have the capacity to support an economic life of its own.<sup>62</sup>

Around the time of the 1930 Hague Conference, as far as international customary law was concerned, many governments thought that in order for a "geographic" island to qualify as a "legal island" (i.e., an island entitled to its own territorial sea), it had to be a piece of territory capable of occupation and use.<sup>63</sup> Nevertheless, Sub-Committee II of the Second Commission (Territorial Waters) at the Hague Conference of 1930 for the Codification of International Law included a draft provision referring to "islands" by stating: "Every island has its own territorial sea. An island is an area of land, surrounded by water, which is permanently above high-water mark."<sup>64</sup>

56. *Id.* at 67.

57. E. D. BROWN, *THE INTERNATIONAL LAW OF THE SEA* 148 (Introductory Manual, X ed. 1994).

58. *Id.* (emphasis added).

59. *Id.* at 148-49 (emphasis added).

60. *Id.* at 149 (citing Convention on the Territorial Sea and the Contiguous Zone, art. 10(1), April 29, 1958, 15 U.S.T. at 1609, 516 U.N.T.S. at 212).

61. *Id.*

62. *Id.*

63. *Id.*

64. *Id.* (citation omitted).

International customary law did not include a state practice recognizing rocks as being entitled to a territorial sea or other maritime zone of their own.<sup>65</sup> Contrary thereto, in the *Anglo-French Continental Shelf* case<sup>66</sup> the United Kingdom challenged France's interpretation on this matter. The United Kingdom argued that there existed contemporary British practice which treated the Eddystone Rocks as an island for all purposes including the use of the low-water line around the island for the maritime zones.<sup>67</sup> Without taking a position on the precise legal status of Eddystone Rock, the Court of Arbitration found that it should be treated as a relevant-point for the delimitation of the continental shelf boundary in the Channel.<sup>68</sup>

The text of the International Law Commissions discussion with respect to islands, together with its Commentary states:

1. This article applies both to islands situated in the high seas and to islands situated in the territorial sea. In the case of the latter, their own territorial sea will partly coincide with the territorial sea of the mainland. The presence of the island will create a bulge in the outer limit of the territorial sea of the mainland. The same idea can be expressed in the following form: islands, wholly or partly situated in the territorial sea, shall be taken into consideration in determining the outer limit of the territorial sea.

2. An island is understood to be any area of land surrounded by water which, except in abnormal circumstances, is permanently above high-water mark. Consequently, the following are not considered islands and have no territorial sea:

(I) Elevations which are above water at low tide only. Even if an installation is built on such an elevation and is itself permanently above water - a lighthouse, for example, the elevation is not an "island" as understood in this article.

(ii) Technical installations built on the sea-bed, such as installations used for the exploitation of the continental shelf . . . the Commission nevertheless proposed that a safety zone around such installations should be recognized in view of their extreme vulnerability. It does not consider that a similar measure is required in the case of lighthouses.

3. The Commission had intended to follow up this article with a provision concerning groups of islands. Like The Hague Conference for the Codification of International Law of 1930, the Commission was unable to overcome the difficulties involved. The problem is singularly complicated by the different forms it takes in different archipelagos. The Commission was prevented from stating an opinion, not only by disagreement on the breadth of the territorial sea, but also by lack of technical information on the subject. It recognizes the importance of this question and hopes that if an interna-

65. BROWN, *supra* note 57, at 153-54 n.35.

66. *Id.*

67. *Id.* (citation omitted).

68. *Id.*

tional conference subsequently studies the proposed rules it will give attention to it.<sup>69</sup>

The language stated above evolved into Article 10 of the Convention on the Territorial Sea and Contiguous Zone concluded in 1958 at the Geneva Conference on the Law of the Sea.<sup>70</sup> The Convention on the Territorial Sea and Contiguous Zone contains the following provisions with reference to islands: "An island is a naturally formed area of land, surrounded by water, which is above water at high tide. The territorial sea of an island is measured in accordance with the provisions of these articles."<sup>71</sup>

According to E. D. Brown, a "radical shift in the regime of rocks and islands" occurred with the introduction of Article 121 of the 1982 LOS Convention.<sup>72</sup> Article 121 states:

1. An island is a naturally formed area of land, surrounded by water, which is above water at high tide.
2. Except as provided for in paragraph 3, the territorial sea, the contiguous zone, the exclusive economic zone and the continental shelf of an island are determined in accordance with the provisions of this Convention applicable to other land territory.
3. Rocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf.<sup>73</sup>

This author notes that sub-paragraph 3 is new.<sup>74</sup> Unlike Article 1 of the 1958 Geneva Convention on the Continental Shelf, Article 76 of the 1982 LOS Convention does not refer to islands in defining the continental shelf.<sup>75</sup> Instead the title of Article 121 is "Regime of Islands."<sup>76</sup>

The reader will observe that the Article 121(1) 1982 LOS Convention definition is identical in language to its predecessor, Article 10(1) of the Geneva Convention on the Territorial Sea and Contiguous Zone, 1958.<sup>77</sup> *General rule* Article 121(2) is substantively similar to that of Articles 10(2) and

69. See *infra* note 82, at 5-32. "The Commission points out, for purposes of information, that Article 5 may be applicable to groups of islands lying off the coast." *Report of the International Law Commission Covering the Work of its Eight Session*, U.N. GAOR 11th Sess., Supp. No. 9, at 16-17, U.N. Doc.A/3159 (1956); 2 Y.B. INT'L COMM'N 253, 270 [1956].

70. BROWN, *supra* note 57, at 149; see *supra* note 60 and accompanying text.

71. BROWN, *supra* note 57, at 149 (citation omitted).

Article 10 adopted largely in form proposed by the United States amendment . . . having the effect of declaring that areas of land which are not naturally formed cannot be considered to have territorial seas of their own. The vote was 37 (United States) in favor, 6 opposed, with 14 abstaining.

*Id.* at 161-63, 242 (citing THIRD UNITED NATIONS CONFERENCE ON THE LAW OF THE SEA, Vol. II, U.N. Doc. A/CONF.62/C.1/SR.1-17, U.N. Sales No. E.75.V.4 (1975) [hereinafter UNCLOS III]).

72. BROWN, *supra* note 57, at 149.

73. LAW OF THE SEA CONVENTION, *supra* note 33, pt. VIII, art. 121.

74. *Id.*

75. BROWN, *supra* note 57, at 149.

76. See *supra* note 73 and accompanying text.

77. See *supra* note 60 and accompanying text.

24(2) of the Convention of the Territorial Sea and Contiguous Zone and Article 1(b) of the Convention on the Continental Shelf.<sup>78</sup>

Article 121(3) represents an entirely new rule whose language is ambiguous and vague. In order to understand ambiguity and vagueness of Article 121(3), one must return to the prior 1958 Geneva Convention on the Territorial Sea and Contiguous Zone. This convention defined the term "island" and made reference to "islands" and "low tide elevations" (e.g., drying rocks), but it did not mention "islets," "rocks" and/or other subdivision of islands.<sup>79</sup> As Brown points out:

[There was no] quantitative criteria other than . . . being above water at high tide . . . [E]ven small, barren rocks were . . . regarded as falling within the definition of an island and as being entitled to their own belt of territorial sea and continental shelf. It was, therefore, highly desirable that, if UNCLOS III [The Third United Nations Convention on the Law of the Sea] was to differentiate between the legal effects of different categories of islands, these categories should be carefully defined.<sup>80</sup>

As it turned out, the word "rock" is not defined and the words "cannot sustain human habitation or economic life of their own" are subject to different meanings.<sup>81</sup> The inability to precisely define "rock" and "cannot sustain human habitation or economic life of their own" raises additional questions. The following questions should be considered: "(1) What constitutes a 'rock' as a form of an island? and (2) what is meant by 'cannot sustain human habitation or economic life of their own?'"<sup>82</sup>

Both Burke and Brown refer to two different definitions concerning the "size" of a "rock" contrasted with an "island."<sup>83</sup> Although the term "island" does not contain a discriminating size, any person of sound mind would think that a rock is smaller than an island or a "smaller-sized island."<sup>84</sup>

A mathematical definition for small islets (1 to 10 square kilometers), isles (10 to 100 square kilometers), and islands (100 to 5 × 10<sup>6</sup> square kilometers) has been formulated by the International Hydrographic Bureau (IHB).<sup>85</sup>

If a "rock" in this hierarchy were to be smaller than a "small islet," then the area of a rock would be less than 1 sq. km. (.3906 sq. mi. or 1 million sq. m.). Hodgson, in contrast, writing only on the question of "special circumstances" in relation to narrative boundary delimitation, categorized "islands" as follows:

1. rocks, less than .001 square mile in area;
2. islets, between .001 and 1 square mile;

78. BROWN, *supra* note 57, at 152 n.36 (emphasis added).

79. *Id.* at 150.

80. *Id.*

81. *Id.*

82. See WILLIAM T. BURKE, INTERNATIONAL LAW OF THE SEA 5-31 to 5-33 (1992).

83. *Id.*; BROWN, *supra* note 57, at 148-52.

84. See BURKE, *supra* note 82 at 5-31 to 5-33.

85. *Id.*

3. isles, greater than 1 square mile but not more than 1000 square miles; and
4. islands, larger than 1000 square miles.<sup>86</sup>

Both Burke and Brown note that in IHB scheme, "a 'rock' has an area less than 0.001 square miles (27, 878 sq. ft. or 2,590 sq. m.).<sup>87</sup> In these two hierarchies, the IHB 'rock' is nearly 400 times larger than the other quantifications."<sup>88</sup> Returning to my original question regarding the drafters' intent in Working Paper 8,<sup>89</sup> did they "have either concept in mind, or is another value to be interpreted?"<sup>90</sup> This discrepancy leads to interpretive difficulties, for example:

If Hodgson's definition is accepted as a reasonable limit, then to what islands would the term apply? By definition, the island must be smaller than 27,878 square feet or 2,590 square m[eters]. This island, if square, would measure approximately 51 m[eters] on a side or, if circular, have a radius of approximately 28.7 m[eters].<sup>91</sup>

An "island" of this size presents significant challenges in terms of human habitation or economic life, the next characteristic of an island.

Brown raises interesting points in his discussion of human habitation or economic life.<sup>92</sup> When discussing the issue of when a rock is uninhabitable, Brown suggests, as does Burke:

[t]he absence of sweet water might provide such a test; but what if supplies reach the rock from the mainland or a desalination plant is installed? . . . [M]ust the rock be able to produce the minimum necessities of life independent of outside supplies before it can be regarded as habitable? Would the presence of a lighthouse keeper, supplied from [outside the rock], provide evidence of habitability?<sup>93</sup>

In other words, would the expenditure of funds from another financial source providing the rock with a minimally sustainable economic life count towards compliance with the vague description of a "rock"? The six states<sup>94</sup> have attempted to support their incredulous claims by, *inter alia*: using military force; occupying and fortifying the rocks where possible; creating structures and markers; creating scientific research stations of sorts; enacting statutes; incorporating the rocks into nearby provinces; publicizing maps showing their respective claims and releasing "historical documents" to back up these claims; allowing tourists and journalists to visit the rocks; granting conces-

86. *Id.* at 5-33 to 5-34.

87. *Id.* at 5-34; BROWN, *supra* note 57, at 150.

88. *Id.* Burke and Brown both cite Hodgson & Smith, *The Informal Single Negotiating Text (Committee II): A Geographical Perspective*, 3 OCEAN DEV. AND INT'L L. 225, 225-59 (1976).

89. Working Paper 8 is an informal reference to Hodgson & Smith's article. See *supra* note 88.

90. BURKE, *supra* note 82, at 5-34.

91. *Id.*

92. BROWN, *supra* note 57, at 150.

93. *Id.*

94. See *supra* note 7 (listing the six states involved in the Spratly dispute). See Corder, *supra* note 14, at 62-68.

sions to oil companies; arresting fishermen; and creating a "tourist resort" complete with hotel and airstrip.<sup>95</sup> Thus, it appears that the rocks may have an economic life of their own.

As Brown points out the "human habitation/economic life formula is not a new one."<sup>96</sup> Resolution Four of the 1923 Imperial Conference represents one of a series of resolutions setting forth common policy for the British Empire on the question of the limits of territorial waters<sup>97</sup> states:

The coastline from the low-water mark of which the 3-mile limit of territorial waters should be measured, is that of the mainland and also that of all islands. The word 'island' covers all portions of territory permanently above high water in normal circumstances and capable of use or habitation.<sup>98</sup>

An explanatory memorandum, setting forth the drafters' intent, states:

22. The phrase 'capable of use or habitation' has been adopted as a compromise. It is intended that the words 'capable of use' should mean capable, without artificial addition, of being used throughout all seasons for some definite commercial or defence purpose, and that 'capable of habitation' should mean capable, without artificial addition, of permanent human habitation.

23. It is recognized that these criteria will in many cases admit of argument, but nothing more definite could be arrived at in view of the many divergent considerations involved. It is thought that no criteria could be selected that would not be open to some form of criticism.<sup>99</sup>

The addition of the phrase "without artificial addition"<sup>100</sup> would have assisted our quest for a proper interpretation of Article 121(3). Under Article 121(3), there are "[m]any, small, uninhabitable islands, which . . . would not . . . be considered rocks, situated throughout"<sup>101</sup> the world's oceans. The question then becomes, "who is to determine whether these islands are to be considered under the terms of the article?"<sup>102</sup>

Brown and Burke concluded their discussions by noting that few areas of non-coastal rocks exist.<sup>103</sup> Both authors provide Rockall<sup>104</sup> as an example of an area that "may well attract a very considerable area of additional continental shelf for the coastal [s]tate concerned in the absence of any such provi-

95. Mark J. Valencia, *Spratly Solution Still at Sea*, 2 THE PAC. REV. 155, 158 (1993).

96. BROWN, *supra* note 57, at 151.

97. *Id.*

98. *Id.* (citing Imperial Conference 1923, Report of Inter-Departmental Committee on the Limits of Territorial Waters (Document T.118/118/380 (1924), Public Record Office Ref. F.O. 372/2108 at 5.)

99. *Id.*

100. *Id.*

101. *Id.*

102. *Id.* (citation omitted).

103. BROWN, *supra* note 57, at 151.

104. *Id.* Rockall is an area measuring 624 square meters (0.000241 square miles) and lies 162 nautical miles west of the United Kingdom. *Id.*

sion as Article 121(3)."<sup>105</sup> Maro Reef, lying in the western Hawaiian group is another example of a larger island and several atolls.<sup>106</sup> Given the size of these formations, these islands will possess full exclusive economic zones.<sup>107</sup> Also, a reduction of total area of the economic zone will occur, although the amount will probably not exceed three thousand square nautical miles of very deep water.<sup>108</sup>

In order to examine fully the validity of the various claims of the six nations, other aspects of international law that are being suggested by a few of the disputes must be discussed. After this discussion, the content of the competing claims will be explored and analyzed under international law.

#### IV. BASIC TERMINOLOGY REGARDING ACQUISITION OF ADDITIONAL TERRITORY UNDER INTERNATIONAL LAW

As the reader will recall from the introductory material on the China-Philippine dispute, several nations claiming rights to the Spratlys have "occupied" the rocks and have universally declared their jurisdiction over the Islands.<sup>109</sup> Therefore, it becomes necessary to discuss certain traditional concepts offered by the claimants in an attempt to validate their claims.

According to Shaw, Oppenheim, and Brownlie there are five modes of territorial acquisition: occupation by prescription, cession, accretion, subjugation or conquest, and *terra nullius*.<sup>110</sup> In contrast, the category of *res communis* is territory "generally [incapable] of being reduced to sovereign control."<sup>111</sup> According to the *res communis* concept of territory, states have no jurisdictional claim over this territory.<sup>112</sup> The high seas and outer space are examples of the *res communis* territory.<sup>113</sup> As a result, all states may utilize the high seas and outer space in a manner prescribed by existing treaties, e.g., UNCLOS III.<sup>114</sup> When considering the territorial concepts referenced above, the exercise of effective control requires the broadest discussion due to the various claims made on the Spratly rocks.

*Terra nullius*, by definition, "is a method of acquiring territory which belongs to no [state] . . . and which may be acquired by [any] state"<sup>115</sup> via occupation by a state (not by private individuals) and intended as a claim of

105. *Id.*

106. BURKE, *supra* note 82, at 5-34.

107. *Id.* at 5-20 to 5-25.

108. *Id.* at 5-34.

109. *See supra* notes 3-6 and accompanying text.

110. MALCOLM SHAW, *INTERNATIONAL LAW*, 284 (3rd ed. 1991) (citing OPPENHEIM, 1 *INTERNATIONAL LAW*, 546 (8th ed. 1955) and BROWNLIE, *PRINCIPLES OF PUBLIC INTERNATIONAL LAW*, 123-24 (4th ed. 1990)). Territory known as *terra nullius* is territory over which no state has sovereignty. *Id.* at 280.

111. *Id.*; *see supra*, notes 115-27 and accompanying text for discussion on *terra nullius*.

112. SHAW, *supra* note 110, at 280.

113. *Id.*

114. UNCLOS III, *supra* note 71.

115. SHAW, *supra* note 110, at 289.

sovereignty over the area.<sup>116</sup> Although relating "primarily to uninhabited territories and islands, [the concept] may apply to certain inhabited lands" as well.<sup>117</sup> Examples of title by occupation are Australia and sparsely inhabited islands.<sup>118</sup> Historically, the mere realization or sighting of land was insufficient to acquire title to territory.<sup>119</sup> Customary international law required the form of a symbolic act of taking possession,<sup>120</sup> (e.g., raising a flag, or solemn proclamations, or by more sophisticated ritual expressions).<sup>121</sup> International law evolved as conditions changed.<sup>122</sup> The arbitrator in the *Island of Palmas*<sup>123</sup> case stated that "the modern effect of discovery as merely giving an inchoate title which had to be completed within a reasonable time by the effective occupation of the relevant region."<sup>124</sup> Discovery alone merely notified other states that the claimant state had a prior interest in the territory.<sup>125</sup> In order to become legally meaningful, the claimant state had to occupy the territory effectively within a certain period of time.<sup>126</sup> The factors necessary to establish sovereignty of an "island" would seem to be discovery and "effective" and continuous display of authority over the island.<sup>127</sup>

In contrast to the *Island of Palmas Rule*, the arbitrator in the *Clipperton Island* arbitration (1931),<sup>128</sup> which concerned a dispute over an unpopulated island in the Pacific Ocean,<sup>129</sup> awarded the island to France.<sup>130</sup> The only "display" of authority by France was "placement of a declaration of its sovereignty in a Honolulu newspaper at the time of discovery."<sup>131</sup> The "effective-

116. *Id.*

117. *Id.*; see *Western Sahara*, 1975 I.C.J. 12 No. 61, WL 5, at 38-39 (I.C.J. Oct. 16, 1975); *Western Sahara* 59 I.L.R. 14; Malcolm Shaw, *The Western Sahara Case*, 49 B.Y.I.L. 119, 127-34 (1978).

118. SHAW, *supra* note 110, at 290.

119. *Id.* at 290 n.61; see also A. S. KELLER ET AL., *CREATION OF RIGHTS OF SOVEREIGNTY THROUGH SYMBOLIC ACTS, 1400-1800*, at 148-51 (Columbia Univ. Press 1938) (generally discussing practices of territorial acquisition).

120. SHAW, *supra* note 110, at 290.

121. KELLER, *supra* note 119, at 148-51.

122. *Id.*

123. *United States v. Netherlands*, 2 R.I.A.A. 829 (Perm. Ct. Arb. 1928); see also Philip C. Jessup, *The Palmas Island Arbitration*, 22 AM. J. INT'L. L. 735 (1928) (detailing the discussion of the proceedings).

124. *Id.*

125. *Id.*

126. *Id.*

127. Bennett, *supra* note 23, at 435 (citing *United States v. Netherlands*, 2 R.I.A.A. 829, 846, 870 (Perm. Ct. Arb. 1928)). Effective means an intention and will to act as sovereign and any actual display or exercise of authority. *Id.* at 435 n.58 (citation omitted).

128. See *Mexico v. France*, 2 R.I.A.A. 1105 (1931), *reprinted in* 26 AM. J. INT'L. L. 390 (1932).

129. Bennett, *supra* note 23, at 436.

130. See *Mexico*, 2 R.I.A.A. at 1105.

131. Bennett, *supra* note 23, at 436. Bennett notes:

The *Island of Palmas* case involved conflicting claims by the Netherlands and the United States to an isolated island off the Philippine coast. The United States claimed that Spain had discovered the island and that title passed to the United States pursuant to the Treaty of Paris of 1898. The Dutch, on the other hand, based their claim on an

ness" standard was loosely applied in this case even though the French government took no action for thirty-nine years after discovery.<sup>132</sup> This may demonstrate that international law requires a less rigid standard of effective control when dealing with an isolated and uninhabited area.<sup>133</sup>

When applying the above analysis to the Spratly rock dispute, there may well be higher standards utilized for effective authority or control due to the number of claimants and the need to balance competing claims, regardless of their individual merit.<sup>134</sup> In other words, as Shaw suggests, "The state succeeding in its claim for sovereignty over *terra nullius* over the claims of other states will in most cases have proved not an absolute title, but one relatively better than that maintained by competing states,"<sup>135</sup> Acquiescence of competing states is useful, although not strictly relevant, as evidence of superior title; whereas, the presentation by two states of relatively equal titles enhances the role of consent by third parties.<sup>136</sup>

The world community has avoided involvement in the Spratly rock dispute. Is it bad precedent to allow or acquiesce in the dividing of resources, commercial routes, or environmentally sensitive areas by states that may not have valid claims, but wish to utilize a regional approach to reach accommodation rather than to avoid further bloodshed? It seems that a common heritage regime, for example, could "strictly regulate exploration and would establish management mechanisms, and would employ the criterion of equity in distributing the benefits of such activity."<sup>137</sup>

## V. DISPUTED CLAIMS TO THE SPRATLY ROCKS

Against this introductory background to law of the sea and other traditional jurisdictional concepts it is necessary to set forth the historical and current claims of the six nations together in relation to the "occupation" status of the islands.

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alleged peaceful and continuous display of authority over the island. The arbitrator awarded Palmas to the Netherlands, holding that discovery of an island does not suffice to establish sovereignty; discovery must be followed by an effective and continuous display of authority over the island.

*Id.* at 435.

132. *Id.* at 436.

133. *Id.*

134. *Id.* at 437.

135. SHAW, *supra* note 110, at 295 (emphasis in original).

136. *Id.* at 299.

137. *Id.* at 307. For further readings suggesting numerous approaches to the problem, see Mark J. Valencia, *How to End the Spratly Spats*, ASIAN WALL ST. J. Feb. 17, 1995, at 1; Mark J. Valencia, *A Spratly Solution*, FAR E. ECON. REV. Mar. 31, 1994, at 1; Mark J. Valencia, *Spratly Solution Still at Sea*, 2 THE PAC. REV. 155 (1993); see generally B.A. HAMZAH, MALAYSIAN INST. OF MARITIME AFFAIRS, READINGS ON SOUTH CHINA SEA (1990) (generally discussing a common heritage regime).

Lee G. Cordner has set forth the various historical claims in detail.<sup>138</sup> For purposes of this discussion, I will briefly sketch the historical claims by country, and then attempt to summarize the current status of each claim.

The Chinese claim the Spratly Islands have been part of Chinese territory since "ancient times."<sup>139</sup> China claims to have discovered, settled, and developed the Spratly Islands during the reign of Emperor Wu, during the Western Han Dynasty, from 206 B.C. to 24 A.D.<sup>140</sup> This claim is disputed by "at least one western scholar who places the discovery in the Yuan Dynasty (1282-1368)."<sup>141</sup> Despite the disputed dates, China may claim the earliest recorded contact.<sup>142</sup> During the 10th through the 16th centuries, China used the South China sea as a main transit route for world trade.<sup>143</sup> In June 1887, a treaty between China and France formally established Vietnam as a French protectorate.<sup>144</sup> France "laid claim to territory west of 105° 43' east of Paris . . . [thereby] ceding territory east of this line to China."<sup>145</sup> Since the Spratly Islands lie east of the prescribed line, the Chinese argue that the 1887 treaty constitutes further evidence of their ownership.<sup>146</sup>

Vietnam acknowledged China's 12-mile territorial sea on September 14, 1958, which incorporated the islands in the South China Sea.<sup>147</sup> China interpreted this to mean that Vietnam recognized that the Spratly Islands belonged to China.<sup>148</sup> In addition, China cites various Vietnamese books and maps published since 1956 using Chinese names to refer to the Spratlys, marking them as Chinese property.<sup>149</sup> China passed a law on territorial waters and their contiguous areas that formalized and solidified its claim to territorial sovereignty over the Paracel and Spratly Islands.<sup>150</sup> The weaknesses of China's claim include their failure to list the Spratly Islands on an official 1928 chart that allegedly showed all of their territory.<sup>151</sup> The claims based on the 1887 treaty with France are vague.<sup>152</sup> The more solid based on continuous occupation, administration, and control have only been effective since

138. See Cordner, *supra* note 14, at 61; see also R. HALLER-TROST, CENTRE OF SOUTH-EAST ASIAN STUDIES, UNIVERSITY OF KENT AT CANTERBURY, *THE SPRATLY ISLANDS: A STUDY ON THE LIMITATIONS OF INTERNATIONAL LAW*, (Occasional Paper No.14, 1990) (detailed discussion regarding the Spratly dispute).

139. Cordner, *supra* note 14, at 62.

140. *Id.*

141. Bennett, *supra* note 23, at 434.

142. *Id.*

143. Cordner, *supra* note 14, at 62.

144. *Id.* at 62-64.

145. *Id.* at 64.

146. *Id.* Even though the islands were not named, no north/south or eastern limits are specified and interpretations of the Treaty are controversial. *Id.*

147. HAMZAH, *THE SPRATLIES*, *supra* note 9, at 31.

148. *Id.*

149. *Id.*

150. Approved by the 24th Session of the Standing Committee of the Seventh National People's Congress on February 25, 1992.

151. HAMZAH, *THE SPRATLIES*, *supra* note 9, at 65.

152. *Id.*

1988, after their skirmish with Vietnam, a state that presents a prior valid claim.<sup>153</sup>

The Taiwanese government makes the same "ancient times" type of claim as China.<sup>154</sup> The Taiwanese claim to the Spratly begins in 1939, when the Japanese invaded Hainan, the Paracel, and Spratly Islands, establishing the first recorded permanent garrison which led to effective control of the Spratlys.<sup>155</sup> Thereafter, Japan placed the Islands under Taiwanese jurisdiction.<sup>156</sup> During this period Taiwan was a territory of Japan.<sup>157</sup> In 1945, at the end of World War II, Japan withdrew from the Islands. In 1946, China deployed a navy contingent and established small garrisons.<sup>158</sup> After separating from China in 1947, Taiwan attempted occupation.<sup>159</sup> However, the Taiwanese were only able to control Itu Aba effectively.<sup>160</sup> China placed them under the administrative control of Kuangtung Province in 1947.<sup>161</sup> In 1950, the San Francisco Allied-Japanese Conference was held.<sup>162</sup> At this Conference, Japan renounced all right, title, and claim to the Spratly Islands, but a successor to the title was not named.<sup>163</sup> In 1952, Japan and China signed a separate bilateral treaty which stated that Japan, citing Article 2 of the San Francisco Peace Conference, renounced all right, title, and claim to Taiwan, including the Spratlys.<sup>164</sup> Taiwan thus argued that this treaty was substantive proof that China exercised complete sovereignty over the Spratly Islands.<sup>165</sup>

Between 1950 and 1955, Taiwan did not physically occupy the Spratly Islands.<sup>166</sup> In 1956, however, Taiwan reestablished a garrison on Itu Aba, including naval patrols.<sup>167</sup> Therefore, Taiwan then effectively occupied Itu Aba Island between 1945-1950 and 1956 onward.<sup>168</sup> This occupation, along with the Japanese surrender of the Spratly Islands, by virtue of the Japan-

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153. A violent clash between China and Vietnam near Landsdowne Reef in March 1988, resulted in the sinking of three Vietnamese ships and left approximately seventy people dead. Valencia, *Spratly Solution Still at Sea*, *supra* note 95, at 155 (citing HONOLULU ADVERTISER AND INTELLIGENCE, Mar. 15, 1988, at D-1 and FAR E. ECON. REV., Apr. 26, 1990, at 8).

154. Cordner, *supra* note 14, at 62.

155. *Id.* at 64.

156. *Id.*

157. *Id.* at 62.

158. *Id.*

159. *Id.*

160. *Id.*; see also KELLER, *supra* note 119, at 148-51 (discussing effective control).

161. Cordner, *supra* note 14, at 62. Note that although China took administrative control of the Spratlys, Japan did not relinquish its official claim to the Islands. *Id.*

162. *Id.*

163. *Id.*

164. *Id.*

165. *Id.*

166. *Id.*

167. *Id.*

168. *Id.* at 65.

Taiwan Treaty of 1952, makes Taiwan's claim appear stronger.<sup>169</sup> However, Taiwan can probably only sustain a claim for Itu Aba, and not all of the archipelago.<sup>170</sup>

Vietnam claims ownership from 1650-1653, yet provides no basis for such a claim.<sup>171</sup> In addition, the Vietnamese claim Emperor Gia-Long governed the Spratlys beginning in 1816.<sup>172</sup> An inaccurate 1838 Vietnamese map substantiates this claim, depicting the Spratlys as part of Vietnamese territory,<sup>173</sup> however, Vietnam lost interest in governing the Islands during the French occupation.<sup>174</sup> Vietnam affirmed its sovereign control over the Spratly Islands at the 1951 San Francisco Peace Conference without any objection from those present.<sup>175</sup> In 1956, the Republic of South Vietnam reaffirmed ownership and protested the Philippines' first claim to the Spratly Islands.<sup>176</sup> The South Vietnamese statement of June 1, 1956, reaffirmed ownership by virtue of the San Francisco Treaty of 1951, despite the fact that the treaty did not assign jurisdictional "rights" to any state.<sup>177</sup>

The Vietnamese claim is flawed because since France's 1933 occupation of the Spratlys, assuming it was valid, resulted in a transfer of sovereignty to Japan in 1941.<sup>178</sup> The South Vietnamese assigned governance of the islands to Phuoc Tuy Province in 1956, while the North Vietnamese supported Chinese ownership.<sup>179</sup> The South did not support China's "rights."<sup>180</sup> Thus, due to various sovereign lapses before and during the French occupation,<sup>181</sup> Vietnamese jurisdictional claims are doubtful, despite their occupation of various rocks, islets, etc., since 1973.<sup>182</sup> They may have a valid claim to parts of the Spratly Islands due to extensions of their continental shelves.<sup>183</sup> However, these claims conflict with the Vietnamese shelf claims based on the premise that the Islands each have their own shelf (if what exists are islands and not islets, rocks, etc.).

In 1947, a Philippine businessman and lawyer, Thomas Cloma, asserted that the Spratlys were *terra nullius* and claimed them for himself, naming

169. *Id.* Note that this treaty "did not cede sovereignty specifically to Taiwan or any other state." *Id.*

170. *Id.*

171. Cordner, *supra* note 14, at 65.

172. *Id.*

173. *Id.*

174. Cordner, *supra* note 14, at 65.

175. *Id.*

176. *Id.*

177. HAMZAH, THE SPRATLIES, *supra* note 9, at 30.

178. *Id.*

179. Cordner, *supra* note 14, at 65-66.

180. *Id.* at 66.

181. This is because of the French assertion stating that the Spratly Islands were never given by annexation to Vietnam, and because the Chinese claim was supported by the North Vietnamese and the North succeeded in their civil war against the South. *Id.*

182. *Id.*

183. LAW OF THE SEA CONVENTION, *supra* note 33, pt. VI, art. 76.

them the Kalayaan state.<sup>184</sup> Cloma based his claim on principles of "discovery and proximity," but this original claim was neither indorsed by the Philippines nor any other state.<sup>185</sup> Cloma's claim produced renewed international interests including diplomatic protests to the Philippine government and visits to the Islands by various navies.<sup>186</sup> Although Cloma established small settlements on a number of islets, they remained only for a few months.<sup>187</sup>

Although the Philippines declared straight baselines around the Spratlys in 1955,<sup>188</sup> they made no mention of the Kalayaan State.<sup>189</sup> They claimed ownership to all territory comprising thirty-three islands, sand caps, sand bars, coral reefs, and fishing grounds in the Spratly Islands, which encompassed approximately 64,976 square miles.<sup>190</sup> The Philippines vaguely stated that the Spratly and Kalayaan Islands were separate,<sup>191</sup> and "argued that the Kalayaan territory was considered 'terra nullius' after the 1951 San Francisco Peace Treaty, which left the [Spratlys] under trusteeship of the Allied powers."<sup>192</sup> Although the Philippines did not indorse the original claim in 1970-71, they decided to occupy three islands within the claimed area.<sup>193</sup> They attempted to land troops on Itu Aba, but were repelled by Taiwanese troops.<sup>194</sup> The Philippine government protested and claimed they had legal title based on Cloma's "occupation," the Chinese had occupied some islands but without the consent of the Allies, and the island group was within the archipelagic territory claimed by the Philippines.<sup>195</sup> In 1974, Cloma transferred ownership of Kalayaan to the Philippine government,<sup>196</sup> who also succeeded in occupying a fourth island in the Spratlys.<sup>197</sup> On June 11, 1978, President Ferdinand Marcos signed Presidential Decree 1596 claiming sovereignty over the Kalayaan group.<sup>198</sup> It was identical to the Cloma claim except that it omitted Spratly Island proper and included Amboyna Cay.<sup>199</sup>

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184. *Id.*

185. *Id.* at 31.

186. *Id.*

187. *Id.*

188. See UNCLOS III, *supra* note 71, art. V.

189. *Id.* Cloma named the Spratlys "Kalayaan," which means Freedomland. *Id.*

190. HAMZAH, *THE SPRATLIES*, *supra* note 9, at 30 (citing Hungdah Chin and Choon-Ho Park, *Legal Status of the Paracel and Spratly Islands*, in Choon-Ho Park and Jae-Kyu Park eds. *THE LAW OF THE SEA INSTITUTE, THE LAW OF THE SEA: PROBLEMS FROM THE EAST ASIAN PERSPECTIVE* (1988)).

191. Cordner, *supra* note 14, at 66.

192. *Id.*

193. HAMZAH, *THE SPRATLIES*, *supra* note 9, at 31.

194. *Id.*

195. Cordner, *supra* note 14, at 66.

196. *Id.*

197. *Id.*

198. HAMZAH, *THE SPRATLIES*, *supra* note 9, at 31.

199. *Id.* Vietnam occupied both of these archipelagos. *Id.*; see also Cordner, *supra* note 14, at 66-67.

The Philippines' claim now extends over an area of 70,150 square nautical miles.<sup>200</sup> It contains a 200-nautical-mile Exclusive Economic Zone and territorial sea baseline.<sup>201</sup> The government justified its claim of Kalayaan on vague security and economic grounds.<sup>202</sup> Their claim is based on the aforementioned grounds and continental shelf provisions of the 1982 LOS Convention.<sup>203</sup> In addition, the Philippines make an untenable claim to a 350-nautical-mile continental shelf and the entire archipelago.<sup>204</sup>

Malaysia justifies its claim to the southern part of the Spratly Islands based upon their geographical relationship to the Islands as well as their interpretation of the 1982 LOS Convention.<sup>205</sup> Like Vietnam, their continental claims would conflict with claims based on the islands themselves, assuming that they are islands. Malaysia passed a Continental Shelf Act in 1966, based on the provisions of the 1958 Geneva Convention on the Continental shelf.<sup>206</sup> Their "historical" claim to the southern Spratly Islands coincides with the issuance of the 1979 Map of Malaysia, which defines the continental shelf area.<sup>207</sup> The map declared sovereign jurisdiction over all the islands and atolls on the shelf based on the 1958 and 1982 Law of the Sea Treaty provisions on the shelf boundaries.<sup>208</sup> The other five members of the Association of Southeast Asian Nations (ASEAN) protested this declaration.<sup>209</sup> In 1984, Malaysia proclaimed an Exclusive Economic Zone Act, but did not release an official map showing the coordinates of either the delimitations or baselines.<sup>210</sup> They state that the jurisdictional rights of a sovereign state to a shelf "extends to off-lying obstacles thereon and have claimed a 12-nautical-mile territory around Swallow Reef and Amboyna Cay."<sup>211</sup> Malaysia uses Article 121(1) of the 1982 LOS Convention to support its claim.<sup>212</sup>

From 1983-86, Malaysia garrisoned troops on three insular islets in the southern Spratlys in an attempt to reinforce their claims of effective sover-

200. HAMZAH, *THE SPRATLIES*, *supra* note 9, at 31.

201. Cordner, *supra* note 14, at 67.

202. *See* HAMZAH, *THE SPRATLIES*, *supra* note 9, at 31.

203. Cordner, *supra* note 14, at 67.

204. *Id.* "There is a distinct and deep trough between the Philippine archipelago and the Spratlys, so while a 200-nautical-mile continental shelf claim could be sustained under Article 76 of the 1982 LOS Convention, a 350-nautical-mile claim could not." *Id.*

205. *Id.*

206. *Id.*

207. *Id.*

208. *Id.*

209. HAMZAH, *THE SPRATLIES*, *supra* note 9, at 31.

210. Cordner, *supra* note 14, at 67.

211. *Id.*

212. *Id.* Cordner refers to Malaysia's use of an inverse application of the continental shelf provisions under Article 76, LOS Convention, which defines the "legal" as opposed to the "geological" continental shelf as "the submerged prolongation of the land mass of the coastal State . . . [which] consists of the sea-bed and subsoil of the shelf, the slope and the rise. There is no reference to, [or] provision for, islands, rocks, [etc.] on the continental shelf that [are] above sea level." *Id.* (quoting LOS Convention, art. 76(3)).

eign control,<sup>213</sup> and apparently established a "holiday resort" and "airstrip" on one of these islets.<sup>214</sup> However, under the 1982 LOS Convention, a coastal state need not display any specific form of control over a continental shelf area in order to meet ownership requirements of LOS Convention Article 77.<sup>215</sup> Malaysia and the Philippines held frequent, but as yet unsuccessful, talks since 1988 in an attempt to rectify the Spratly problem.<sup>216</sup> Except for unproductive boundaries delimitation discussions with Brunei, Malaysia resists negotiations with other claimants over continental shelf boundaries.<sup>217</sup> The claims to the Spratly Islets include: Pulau Amboyna Kecil (Amboyna Cay) is claimed and protested by the Vietnamese, Terumbu Laksamana (Commodore Reef) is claimed and protested by the Philippines, and Terumbu Semarang Barat Kecil (Louisa Reef) is claimed and protested by Brunei.<sup>218</sup>

Brunei is a small oil-rich state which already benefits from hydrocarbon deposits located near its coastline.<sup>219</sup> Brunei claims Louisa Reef, which is situated well south of the main Spratly rockapelo. However, Malaysia counterclaims this Reef.<sup>220</sup> Brunei bases its claim of delimitation for its continental shelf on the 1954 British claim that the area terminates at the 100-fathom line.<sup>221</sup> In 1980, Britain proposed discussions with Malaysia regarding its "seaward delineation of their adjacent maritime boundaries."<sup>222</sup> After Brunei gained its independence in 1984, Malaysia and Brunei continued negotiations to no avail.<sup>223</sup> A 1988 Brunei map displays a continental shelf that extends beyond Rifleman Bank,<sup>224</sup> but this claim is vague, apparently based on a 350-nautical-mile continental shelf interpretation.<sup>225</sup> If so, it exceeds the stipulations of Article 76 of the 1982 LOS Convention, because "East Palawan Trough terminates the natural prolongation of the continental shelf 60 to 100 miles off the coast of Brunei."<sup>226</sup> Thus, Brunei's claims are similar to Malaysia's claims because they rely, in part, on the continental shelf provision of the 1982 LOS Convention.<sup>227</sup>

213. *Id.*

214. *Id.* (internal quotes added).

215. *Id.* LOS Convention art. 77(3) states: "The rights of the coastal State over the continental shelf do not depend on occupation, effective or notional, or on any express proclamation." THE LAW OF THE SEA CONVENTION, *supra* note 33, art. 77(3).

216. Cordner, *supra* note 14, at 67.

217. *Id.*

218. HAMZAH, THE SPRATLIES, *supra* note 9, at 31.

219. Cordner, *supra* note 14, at 68.

220. *Id.*

221. *Id.*

222. *Id.*

223. *Id.*

224. *Id.*

225. *Id.*

226. *Id.*

227. *Id.*

In sum, China "claims sovereignty over the entire chain" and refuses to acknowledge the claims of the other five nations.<sup>228</sup> The area claimed "cuts across a large chunk of hydrocarbon-bearing continental shelf off of Brunei, Sabah and Sarawak."<sup>229</sup> It also claims Tseng Mu Reef, which lies "about 32 nautical miles from Tanjung Kiru Dong off Bintulu in Sarawak."<sup>230</sup>

Vietnam claims the entire chain of Spratly Islands.<sup>231</sup> It occupies Southwest Cay, South Reef, Petly Reef, Sand Cay, Nam Yit Island, Discovery Great Reef, Sin Cowe Island, Sin Cowe East Island, Collins Reef, Len Dao, Central Reef, West Reef, Spratly Island, Ladd Reef, Prince of Wales Bank, Bombay Castle, Vanguard Bank, East Reef, Pearson Reef, Alison Reef, Pigeon Reef, Cornwallis South Reef, Barque Canada Reef, and Amboyna Cay.<sup>232</sup>

Taiwan asserts claims similar to those of China.<sup>233</sup> The only question is whether they are claiming the entire ocean surface in the South China Sea or just the Islands themselves.<sup>234</sup>

Malaysia lays claim to the southern Spratlys,<sup>235</sup> declaring a twelve-nautical mile territorial sea around them,<sup>236</sup> and a continental shelf boundary that encompasses seven features.<sup>237</sup> Malaysia also claims Louisa Reef, as does Brunei.<sup>238</sup> Its two hundred nautical mile exclusive economic zone claim is merely a corridor extending to the south of the Spratlys proper, including a small part of Kalayaan, which is also claimed by the Philippines.<sup>239</sup>

China, Taiwan, Vietnam, and the Philippines have incorporated the rockapelago into their provincial administrative systems.<sup>240</sup> They claim "all the 'islands,' rocks, reefs, [etc.,] . . . that stand or emerge above sea level . . ." as part of their territory.<sup>241</sup> China, Taiwan, and the Philippines also claim all the submerged features in the ["rockapelago"] as well.<sup>242</sup> Furthermore,

228. Bennett, *supra* note 23, at 434; *see also* Valencia, *Spratly Solution Still at Sea*, *supra* note 95, at 157 (discussing China's claims to sovereignty).

229. HAMZAH, *THE SPRATLIES*, *supra* note 9, at 29. Sabah and Sarawak are both part of Malaysia.

230. *Id.* Tseng Mu Reef is commonly known as James Shoal. See maps one and five in Appendix Two.

231. *Id.* at 30; *see also* Cordner, *supra* note 14, at 65; Valencia, *Spratly Solution Still at Sea*, *supra* note 95, at 157.

232. HAMZAH, *THE SPRATLIES*, *supra* note 9, at 30. See maps one and five in Appendix Two.

233. HAMZAH, *THE SPRATLIES*, *supra* note 9, at 29-30.

234. *Id.* See maps one and five in Appendix Two.

235. Cordner, *supra* note 14, at 67.

236. *Id.*

237. Valencia, *Spratly Solution Still at Sea*, *supra* note 95, at 157. See maps one and five in Appendix Two.

238. Cordner, *supra* note 14, at 68.

239. Valencia, *Spratly Solution Still at Sea*, *supra* note 95, at 156.

240. *Id.* at 158.

241. *Id.* at 157.

242. *Id.*

China's and Taiwan's claim to the South China Sea are based on their "historical claims" of a "territorial" South China Sea.<sup>243</sup>

#### VII. ISSUES AND POINTS RAISED BY COMMENTATORS ON THE SUBJECT

In light of the various claims of the six nations, a discussion of the issues and views as expressed by the commentators on the subject is needed. An emphasis will be placed on relevant issues and possible solutions to those issues raised by each commentator will be discussed.

It becomes obvious after reading the various papers, comments, and articles, that most of the written emphasis is on China's "illusory" claims to the Spratly rocks and to the entire South China Sea as its territorial sea.<sup>244</sup> The claims seem to be the impetus for a major part of the dispute. However, even though China demonstrates creeping aggressiveness,<sup>245</sup> at least three of the five remaining nations may be making spurious claims. Therefore, most of the writings by authors who have no national interest in the outcome of the dispute seem either to raise or downplay China's role.<sup>246</sup> Other writers who live in one of the six regions or who have a stronger interest in the resolution would like to see a peaceful accommodation even though one or more states may have baseless claims.<sup>247</sup>

In an article that discusses China's perspective of international law, Bennett suggests three reasons why China would have an interest in the rocks: strategic locale, security of its southern flank, and potential oil wealth.<sup>248</sup> The history of conflicting claims involves four main legal issues:

- (1) Did France, and later Japan, acquire title to the Spratlys [Islands] during their successive occupations?
- (2) If the Japanese had legal title to the islands upon their succession to French occupation, how does this transfer of title affect the current controversy?
- (3) Do the claims of the Chinese Governments on the mainland and Taiwan present one claim to the islands or two? and
- (4) Must the Spratly Islands be entirely under the control of one country?<sup>249</sup>

After an interesting discussion, Bennett concludes that China "does not appear to have a meritorious claim to the chain under international law. Therefore, it seems unlikely that [China] would submit to the binding determination of an international arbitration board or judicial body on the question of sovereignty over the Spratlys."<sup>250</sup> Bennett suggests:

If the United States further reduces its military presence in the area of the South China Sea, [China] could well determine that its mili-

243. *Id.*

244. *See, e.g.,* Michael Gallagher, *China's Illusory Threat to the South China Sea*, 1 INT'L SECURITY, Vol. 19, at 184 (Summer 1994).

245. *See, e.g.,* B.A. HAMZAH, *China's Strategy*, FAR. E. ECON. REV., Aug. 13, 1992, at 22.

246. *Compare* Bennett, *supra* note 23, at 431-33 with Cordner, *supra* note 14, at 71.

247. *See, e.g.,* Valencia, *How to End the Spratly Spats*, *supra* note 137, at 6-9.

248. *Id.* *But see* Valencia, *Spratly Solution Still at Sea*, *supra* note 95, at 159.

249. Bennett, *supra* note 23, at 440-441.

250. *Id.*

tary strength vis-a-vis revival claimants to the chain exceeds the strength of its legal claim . . . which might be spurred by new evidence of oil [and gas] resources . . . or by increased tensions along the Sino-Vietnamese border. . . .<sup>251</sup>

A negotiated settlement is imperative.<sup>252</sup> Gallagher offers the following:

The ASEAN states' growing economic ties with the PRC raise the following question. Given the economic carrot the Chinese can dangle in front of the business people of Southeast Asia, wouldn't it be easier for the ASEAN countries to go along with the PRC's claims in the South China Sea rather than put an increasingly profitable relationship at risk?<sup>253</sup>

Gallagher's perspective is similar to the Neville Chamberlain approach to a mouse that roared; however, appeasement, as part of a larger compromise, has been suggested by innuendo and directly throughout the various writings.<sup>254</sup>

In an excellent analysis of the Spratly Islands claims, Corder relates the difficulties with utilizing law of the sea concepts.<sup>255</sup> In particular, he discusses problems with the traditional terms, finding that the dispute could flare up into further armed conflict due to the strategic location and the possibility of rich oil and gas deposits.<sup>256</sup> Nevertheless, Corder asserts that "the limitations of the law of the sea,"<sup>257</sup> and international law will not "provide a mechanism and framework for resolving the dispute."<sup>258</sup>

The most extensive and comprehensive writings come from two sources, Mark J. Valencia and B.A. Hamzah,<sup>259</sup> both of whom are actively involved in attempting to resolve the disputes. Valencia's comprehensive article sets forth the idea of putting aside the question of sovereignty and instead jointly exploring and developing the oil, gas and fisheries resources.<sup>260</sup> He also proposes the "Spratly Treaty."<sup>261</sup> Valencia summarizes the various claims and shows how a few of the states are bolstering his claims by *inter alia*, by employing military force and occupying and fortifying islets.<sup>262</sup> In one of his more interesting discussions he relates the fact that the oil potential of the area cannot be ascertained from the insufficient information available to major oil companies at this time, even if the area was a high priority.<sup>263</sup> In fact,

251. *Id.* at 450.

252. *Id.*

253. Gallagher, *supra* note 244, at 184.

254. *But see* NEVILLE CHAMBERLAIN, *IN SEARCH OF PEACE* (1939).

255. Corder, *supra* note 14, at 71. *But see, e.g.,* Valencia, *Spratly Solution Still at Sea, supra* note 95, at 159.

256. Corder, *supra* note 14, at 71.

257. *Id.*

258. *Id.*

259. Valencia, *Spratly Solution Still at Sea, supra* note 95, at 157; *see, e.g.,* HAMZAH, *THE SPRATLIES, supra* note 9, at 29.

260. *See id.*

261. Valencia, *Spratly Solution Still at Sea, supra* note 95, at 164.

262. *Id.* at 158.

263. *Id.* at 159.

the area is currently a low priority.<sup>264</sup> Valencia provides the following information:

As for the water being too deep for commercial attractiveness, there is about 4,000 mi of seabed in less than 200 m of water on the Reed Bank and nearby banks. There is considerable seabed in the Spratly region within the 1,000m [sic] isobath. The present world record for deep water production is 2,467 feet by Petrobras off Brazil. Within two years, Petrobras expects to be producing oil regularly from 1,000m [sic] in the Campos Basin. Exploratory drilling by Shell has occurred in 7,520 feet of water in the Mississippi Canyon. And this drilling was not just for the glory of it. These companies expect to produce commercially from such depths in the near future. It is true that the size of reserves must be large to justify the expenses of deep-water drilling, perhaps 100-150 million barrels at a lifting cost of \$10/bbl. This is about the estimated size of the 1 West Linacapan strike situated on the geologic margins of the Spratly block. But the oil price may go up or the lifting costs may be reduced. Further, some atolls could be used as drilling platforms. The conclusion is that it is perhaps not wise to make public 'guesstimates' on oil potential in this area on scant second-hand information - one way or the other.<sup>265</sup>

Furthermore, Valencia believes that,

the disputes are not primarily about oil but rather about the strategic significance of the islands and the sovereignty claims thereto. . . . It should also be remembered that the claimants are countries, not oil companies. Countries must and do think long-term and multi-dimensional, particularly when "territory" is involved. Thus, it is doubtful that the claimants would dampen their disputes simply because the oil potential may be modest.<sup>266</sup>

The various countries currently hold workshops.<sup>267</sup> The goal of the process is to "establish cooperation on broad South China Sea initiatives in order to build the confidence of the parties that regional cooperation in the Spratlys is possible."<sup>268</sup>

Hamzah stresses a "confidence building measures"<sup>269</sup> theme in various unpublished works under an umbrella called "Readings on South China Sea" to reduce tensions.<sup>270</sup> He suggests the following measures:

264. *Id.* at 159.

265. *Id.* at 159 (citations omitted).

266. *Id.*

267. *Id.* at 160.

268. *Id.* at 160.

269. B.A. HAMZAH, MALAY. INST. MARITIME AFFAIRS, *CONFLICTING MARITIME CLAIMS IN THE SOUTH CHINA SEA: THE SCOPE FOR RESOLUTION 10* [hereinafter *THE SCOPE FOR RESOLUTION*] (citing two other papers presented in Hong Kong (December 4-6, 1990) and Bandung (July 14-17, 1991)).

270. *Id.* at 1-27; HAMZAH, *THE SPRATLIES*, *supra* note 9 at 29-45; HAMZAH, *China's Strategy*, *supra* note 245, at 22.

- Unilaterally refraining from using force as a policy instrument in the disputed areas.
- Recognizing national sensitivities surrounding the present military deployment in the disputed area. While states may not want to recognize the claims of others, they should respect the national sensitivities resulting from the national claims.
- Avoiding raising the tension level by all means.
- Stopping further occupation and annexation of territories in the Spratlys. Respect for the present status quo should not be misconstrued as prejudicial to long-term interest.
- Restraining states from expanding the present military activities within the disputed area. No new military activities should be attempted in the disputed area without prior consultation.
- Adopting friendly measures such as consultation and notification of military exercise within the disputed areas or close to the disputed areas to avoid giving wrong signals to the other parties.
- Coordinating and harmonizing a common set of operating procedures, for the navies and air forces could in the long run help to minimize the potential for military conflict and reduce the chances of unintentional accidents at sea. In the absence of a formal defense pact, this measure may be difficult to implement. Yet, such harmonization of rules and procedures is essential in maintaining a positive maritime order in a fragile area like the South China Sea.
- Devising some mechanisms to improve communication and contacts between the local military commanders in the disputed areas as a measure to reduce hostility.
- Encouraging a policy of non-introduction or non-stationing of dangerous offensive long range weapons and platforms (for instance, nuclear ships, missiles, attack submarines, naval combatants, fighter aircraft, etc.) as part and parcel of confidence building measures.<sup>271</sup>

Hamzah suggests a consultative forum could contribute to the following goals:

- Exchanging views.
- Enhancing mutual contact.
- Increasing mutual understanding and mutual trust, reducing sensitivities and reducing suspicions.
- Increasing information and expanding the communication channels to increase knowledge.
- Increasing transparency of military activities at sea.
- Reducing tensions and building confidence.
- Enhancing amity and friendship.
- Exchanging information and research findings.
- Anticipating problems by early detection of contentious issues from escalating. A nip-in-the-bud function.
- Institutionalising all current *ad hoc* arrangements on problems in the South China Sea into a permanent set-up which could be used by states as a process for peaceful settlement of disputes at sea.

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271. HAMZAH, THE SCOPE FOR REVOLUTION, *supra* note 269, at 10-11.

— Starting the process of peaceful engagement at sea.<sup>272</sup>

The loose consulate forum could be known as the Maritime Consultative Counsel for the South China Sea (MARICONSULT) which could “work closely with ASEAN, IMO, APEC, the United Nations and its agencies and other relevant maritime organizations.”<sup>273</sup> In other words, defuse a confrontational situation(s) with proper initiatives and perhaps utilize the 1982 LOS Convention as a starting point.<sup>274</sup> The following task forces could be utilized:

1. Task force on environment, ecology and scientific research
2. Task force on navigation, communication, piracy and shipping
3. Task force on resource management
4. Task force on political and security issues
5. Task force on territorial and jurisdictional issues
6. Task force on institutional mechanisms, and
7. Task force on refugees and illicit drug trafficking.<sup>275</sup>

Professor Valencia proposed other solutions to the Spratlys conflict.<sup>276</sup> For example, on March 31, 1994, he wrote that following a “surprise agreement between China Petroleum (Taiwan), China National Offshore Oil (China) and Chevron (U.S.) to form a joint venture for oil exploration in the East China and South China Seas suggests a way out.”<sup>277</sup> Valencia explains that the “key” to a successful solution is to settle grievances between Vietnam and China, involving areas “*outside* the Spratly area—on land, in the Gulf of Tonkin and at sea in the Vanguard Bank area.”<sup>278</sup> He continues:

One way out would be for China and Taiwan to set aside their “historic” claim to most of the South China Sea in exchange for a combined share of 51% in a multilateral Spratly Development Authority, which would administer the core area and manage the exploration and exploitation of resources there. If Vietnam received a favourable settlement in the Tonkin Gulf and Vanguard Bank areas, it might consider settling for less shares in the Spratly area. Since Brunei claims only a tiny portion of the core area, its share would be very small. The remaining shares would be allocated among Vietnam, the Philippines and Malaysia. Although China and Taiwan might argue that their 51% share in the Spratly Development Authority constitutes tacit recognition by the other claimants of the validity of China’s sovereignty claims, the others could rightly counter that, far from relinquishing their claims, all they did was agree to shelve them.

Indeed, under this cooperative regime, the area would be demilitarised, [sic] sovereignty claims would be frozen and the Authority would resolve user conflicts, facilitate exploration and devel-

272. *Id.* at 11-12.

273. *Id.* at 11.

274. *Id.* at 11.

275. *Id.* at 13.

276. Valencia, *A Spratly Solution*, *supra* note 137, at 1.

277. *Id.*

278. *Id.* (emphasis added).

opment of resources, manage fisheries and maintain environmental quality. The legitimate transit of vessels would be allowed. The Authority might also promote international cooperation in scientific research and in protecting vulnerable ecosystems.

Since the core area would be removed from contention, and China and Taiwan would have set aside their historic line claim . . . the relevant countries could then focus their efforts on those areas outside the core area claimed by only two or three governments, e.g., the southwestern margin claimed by Indonesia and Vietnam; the southern margin claimed by Brunei and Malaysia; and the northern portion claimed by China, Taiwan, Vietnam and the Philippines. Eventually, sovereignty over the islands and rocks themselves might either pass to the occupants or be allocated among the different countries on an equitable basis. Either way, the involved countries would be entitled only to narrow territorial seas, could not use their respective areas for military purposes and would have to grant access for scientific research and—more important—any resources the areas might harbour.<sup>279</sup>

Following this article, Valencia released a short paper warning again that “[i]f no progress is made, China may sooner or later ‘kill the chicken to scare the monkey’—that is, precipitate a sharp but short-lived clash with Vietnam to convince the other claimants to accept a China-dominated region.”<sup>280</sup> He also correctly referred to China as the “900-pound gorilla of the Spratly dispute,”<sup>281</sup> suggesting that if the big three in the dispute (China, Taiwan, and Vietnam) could “find a formula for settling their differences, the others wouldn’t be far behind.”<sup>282</sup> After discussing the possibility that these three states are working out their differences, he suggested that “[s]uch a solution would probably take one of two forms: a ‘some for each’ approach, or a ‘some for all’ approach.”<sup>283</sup>

The “some for each approach” is very similar to the proposal that I made years ago regarding the use of an “indicator” when creating boundaries for mid-ocean archipelagos and archipelagic states.<sup>284</sup> Valencia states that perhaps “the solution might involve allocation of the entire South China Sea by equidistance lines from claimed baselines.”<sup>285</sup> Essentially, all parties would acknowledge that they could not claim extensive surrounding area and seabed as their own territory, and subsequently the surrounding seas as their national waters.<sup>286</sup> Valencia notes:

279. *Id.* at 2.

280. Mark J. Valencia, *South China Sea Talks Test Asia's New Order*, UPDATE, Dec. 24, 1994, at 2.

281. Valencia, *How to End the Spratly Spats*, *supra* note 137, at 1.

282. *Id.*

283. *Id.* at 2.

284. See BARY HART DUBNER, *THE LAW OF TERRITORIAL WATERS OF MID-OCEAN ARCHIPELAGOES AND ARCHIPELAGIC STATES* 69-81 (Martinus Nijhoff, The Hague, 1976).

285. Valencia, *How to End the Spratly Spats*, *supra* note 137, at 2.

286. *Id.*

This scenario would give Vietnam, the Philippines and China/Taiwan areas that are roughly equally as large. (China and Taiwan would have to agree between themselves how to manage their sector.) Malaysia would get two sizeable sectors off Sarawak and Sabah, separated by a corridor to satisfy tiny's [sic] Brunei's claim.

The attractions of this solution are obvious. By accepting such a line, the sovereignty question would be put to rest, and the various claimants could get about the business of exploiting the resources in their own sectors. The Philippines would get the northwestern portion of the Spratly block, including the shallow, gas-prone Reed Bank. Indonesia (which is not a Spratly claimant) would get the Natuna gas fields it disputes with Vietnam, China and Taiwan.

The major problem with this solution is that the key player, China, would not get any of the area with petroleum potential.<sup>287</sup>

Alternatively, Valencia's "some for all" approach, would allow the six nations jointly to exploit the area's resources without settling the sovereignty issue.<sup>288</sup> It would be structured similarly to the original 1982 LOSC, Pt. XI, bureaucracy and to the treaty proposed earlier by Valencia.<sup>289</sup>

In this version, all claimants would set aside their claims and establish a multilateral Spratly Management Authority. The SMA would administer the contested area, which could be defined in a couple of ways. One approach would be draw a line halfway between the islands and the nearest undisputed territories. Another way would be to draw a line encompassing all the areas 200 nautical miles or more from the nearest undisputed territory.

This scenario would require China and Taiwan to set aside their "historic" claim to most of the sea. In return, they could be rewarded with a combined 51% of the shares in the SMA. Again, they would have to settle between themselves how to divvy up or manage their stake.

Of course, this would mean Vietnam setting aside its own expansive claims to the South China Sea. But it might well be prepared to do so in return for a favorable settlement from China on the disputed Gulf of Tonkin and Vanguard Bank issues, which the "experts" are already working on. If so, Vietnam, Malaysia and the Philippines would share most of the remaining 49% of the SMA. Brunei would get only a very small share, since its claims in the core Spratlys area are small.

Such a solution would leave the sovereignty question officially unresolved. In any case, nobody would have much incentive to push the matter far, since they would all be sharing in the proceeds of developing the disputed waters, and continuing conflict would stave off investors.

Indeed, the various claimants would be working together to pursue exploration, develop resources, manage fisheries and main-

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287. *Id.*

288. *Id.*

289. *Id.*

tain environmental quality. Such cooperation could greatly lessen, if not eliminate altogether, the chances of miscalculation and dangerous confrontations. Other powers not party to the Spratly dispute — like U.S. and Japan — would be highly supportive, since safety and freedom of navigation would be assured.<sup>290</sup>

However, Valencia thinks that "a dramatic initiative" will be necessary by outside persons who have no stake in that area.<sup>291</sup>

Having reviewed the scholarly works concerning the dispute, it is necessary to set forth some personal thoughts about the situation.

#### VIII. A FEW OBSERVATIONS ON THE DISPUTE(S)

This is a situation where greed and resolution do not make strange bedfellows. Here we have six nations making claims to a wide variety of rocks, islets, shoals, and reefs in order to obtain ocean buried hydrocarbon deposits as well as strategic rights to fisheries. These claims will invariably lead to demands for strategic shipping channels. The claimants, commentators, and I are rather stumped at how to arrive at a traditional solution. The traditional jurisdictional legal discussions that would normally resolve the situation cannot do so here because the traditional terms do not apply. If law of the sea terminology did apply, no nation would have possession over a "traditional" form of island. Each nation would possibly have a relatively meaningless claim to a rock(s). However, each nation could have the possibility of a picnic on the rock for the day, providing, of course, that the claimant bring along its own water. Since the states cannot have or may have a limited traditional jurisdictional claim under any law of the sea provision, the question becomes whether any state has a claim under other aspects of international law? As far as other international law terminology is concerned, China took control of certain rocks in 1986 due to its *occupation* of small rocks, islets or whatever you wish to call them.<sup>292</sup> Taiwan could probably claim sovereignty over Itu Aba due to its effective occupation of that area. The Philippines' claim, by virtue of an individual citizen's activity, is probably worthless. If they have a claim at all, they may have a partial continental shelf claim in the east Spratly area. Vietnam may also have a continental shelf claim.

Essentially, it is impossible to resolve this jurisdictional dispute using traditional terms because traditional terminology is either limited or inapplicable. If we say this claim is either correct or incorrect, China becomes a problem. China does not have a valid claim but it may become more aggressive about its legal fiction. From a Western standpoint, I suppose that the naval powers desire to protect navigational passage and do not truly care who secures the resources provided Western companies develop the area. I do not believe the commercial routes are in danger regardless of how this

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290. *Id.* at 3.

291. *Id.* at 4.

292. LAW OF SEA CONVENTION, *supra* note 33, prt. VI, art. 76.

dispute is resolved. Specifically, if a state is bold enough to attempt closing off channels, the naval powers must then demonstrate the futility of such an exercise; that is, if they are still sufficiently strong enough to do so. I estimate that the naval powers will not be strong enough, given the state of certain economies. Therefore, it would be wise to prevent such a problem. If traditional jurisdictional terms do not apply, what is left for the parties?

Regional approaches to solutions should not involve the determination of sovereignty. In fact, sovereignty is a concept unnecessary to decide if a regional approach is utilized. "Sovereignty" and a "regional approach" appears to be a contradiction in terms unless it is necessary to show the strength or weakness of a bargaining position. A regional approach can be accomplished only if the states involved have a greater goal in mind, the goal of resolving a problem for the benefit of all states. As resources become more and more scarce due to overpopulation, environmental destruction, and other crises, it is critical to manage the resources effectively. The regional approaches create public cartels for the benefit of the region and should do so for the benefit of other states as well.

Unlike what is occurring in the world's oceans where seventy percent of fisheries are quickly being depleted due to over fishing and antiquated jurisdictional concepts contained in the 1982 LOS Convention, the "framework" for bigger and better concepts, the regional approach to the Spratly rock dispute(s) is suited perfectly because hydrocarbon deposits are "localized" and do not swim to spawn. The main resource will be in one general area. What has to be decided, therefore, is who gets how much without asking why they are getting a specific share. Most of the claims are either limited or are legal fictions. Professor Valencia and Dr. Hamzah have proposed excellent solutions but some questions linger. Should the regional approach be taken without any benefit to mankind? Is settling this particular dispute going to prevent states in other regions from imposing their wills over stronger states knowing that the stronger states will win because the weaker states will cave in due to fear.

It is not the dispute(s) or claim(s) that are troubling, but the audacity of the states making such claims. This dispute is a prime example of what events can take place when there is a breakdown of the traditional jurisdictional concepts without anything civilized on which to fall back. Can a solution be found to correct the chaotic situation? Can the dispute be resolved by outside assistance? Is any country truly in a better position? In order for this type of dispute to cease, the states should have responsibilities toward each other and toward the global community. The legal scriptures and structures inadequately address the issues. The law of the sea, customary or in treaty format, for example, was not developed fully to address the major resource problems of today. However, the law can be utilized as a starting point. Traditional international concepts are not available to handle new resource problems and were not meant to handle such problems. International law, however, is a *developing* process. Global economics will eventually lead to a cohesiveness among states. Do any of these thoughts resolve the Spratly

dispute? No, although it is necessary to have foresight when dealing with these issues because limited resources will soon be a major problem. Dividing up the Spratly resources, including hydrocarbon deposits and fisheries, is a short-term solution to an ongoing problem. The solution, as far as resources and non-resources are concerned, is to do away with jurisdiction concepts because they are either inapplicable in most instances and, simultaneously, to create two new non-jurisdictional concepts: an "indicator"<sup>293</sup> and a "rockapelago." The "indicator" can be used to cordon off the entire area within this imaginary line. The international community will control the non-resource strategic commercial routes to insure safe passage of shipping throughout the region. The international community can also attempt to control piracy, proper navigational passage, environmental damage, and administration of the rockapelago. In return, a formula of resource allocation will be created whereby the six competing states obtain a percentage of fish catch, hydrocarbon deposits, and other resources. The international community will receive its percentage as a broker and administrator for the common heritage of mankind. We can utilize both Dr. Hamzah's "confidence building measures" together with Professor Valencia's allocation suggestions. In this situation, there need never be a discussion of "sovereignty" or other traditional concepts.

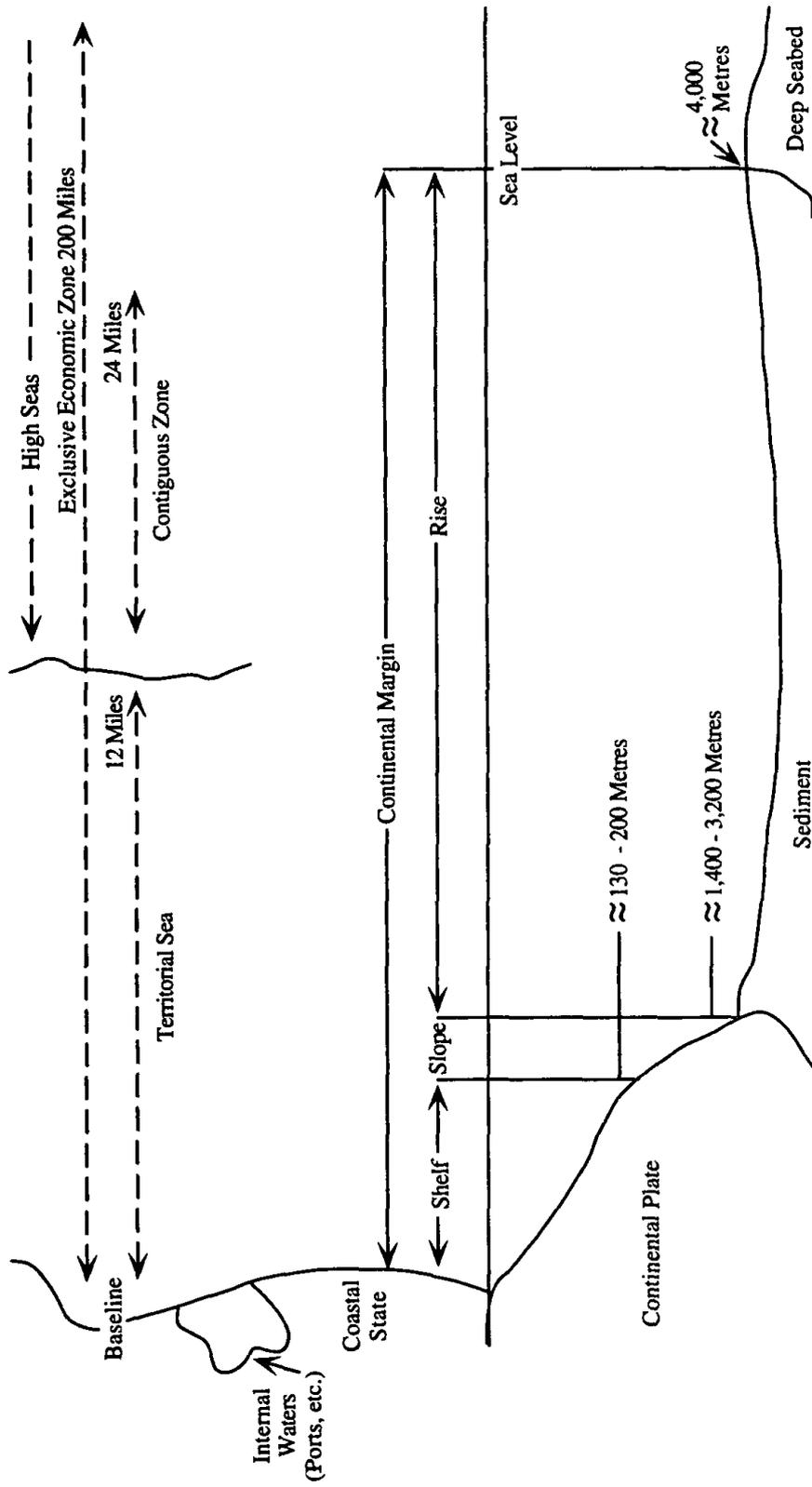
#### IX. CONCLUSION

Sovereignty over the Spratly rockapelago is a non-issue because deciding who has title to these "rocks" will not resolve the resource/non-resource allocation problem. Why? China is lurking in the background, waiting, buying time with spurious claims and bogus negotiations. Traditional norms such as jurisdictional questions do not solve the disputes. As sovereignty issues become less important due to the emergence of global economics and as resources become limited and scarce due to overpopulation and environmental destruction, a new approach by states, regionally and with the help of outside assistance, may be the only method of bringing reality to a race quickly spinning out of control. Regional approaches cannot exclude benefiting the remaining states, or there will eventually be repercussions. Sovereignty is becoming obsolete as a meaningful concept due to scarcity of resources brought about by overpopulation and environmental damage. The Spratly island dispute is a good place to start a reevaluation of "regionalism."

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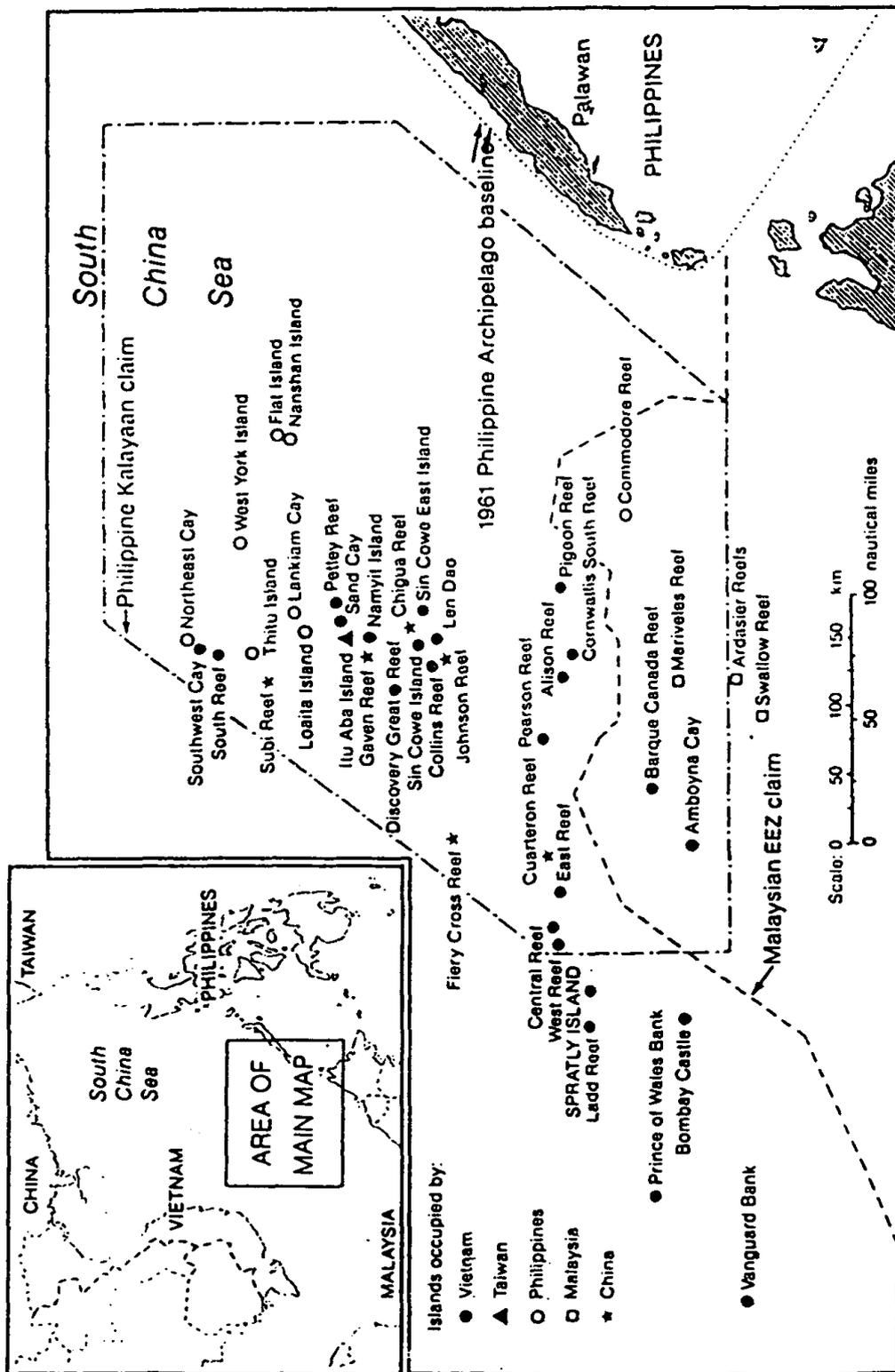
293. DUBNER, *supra* note 284, at 69-81.

APPENDIX 1

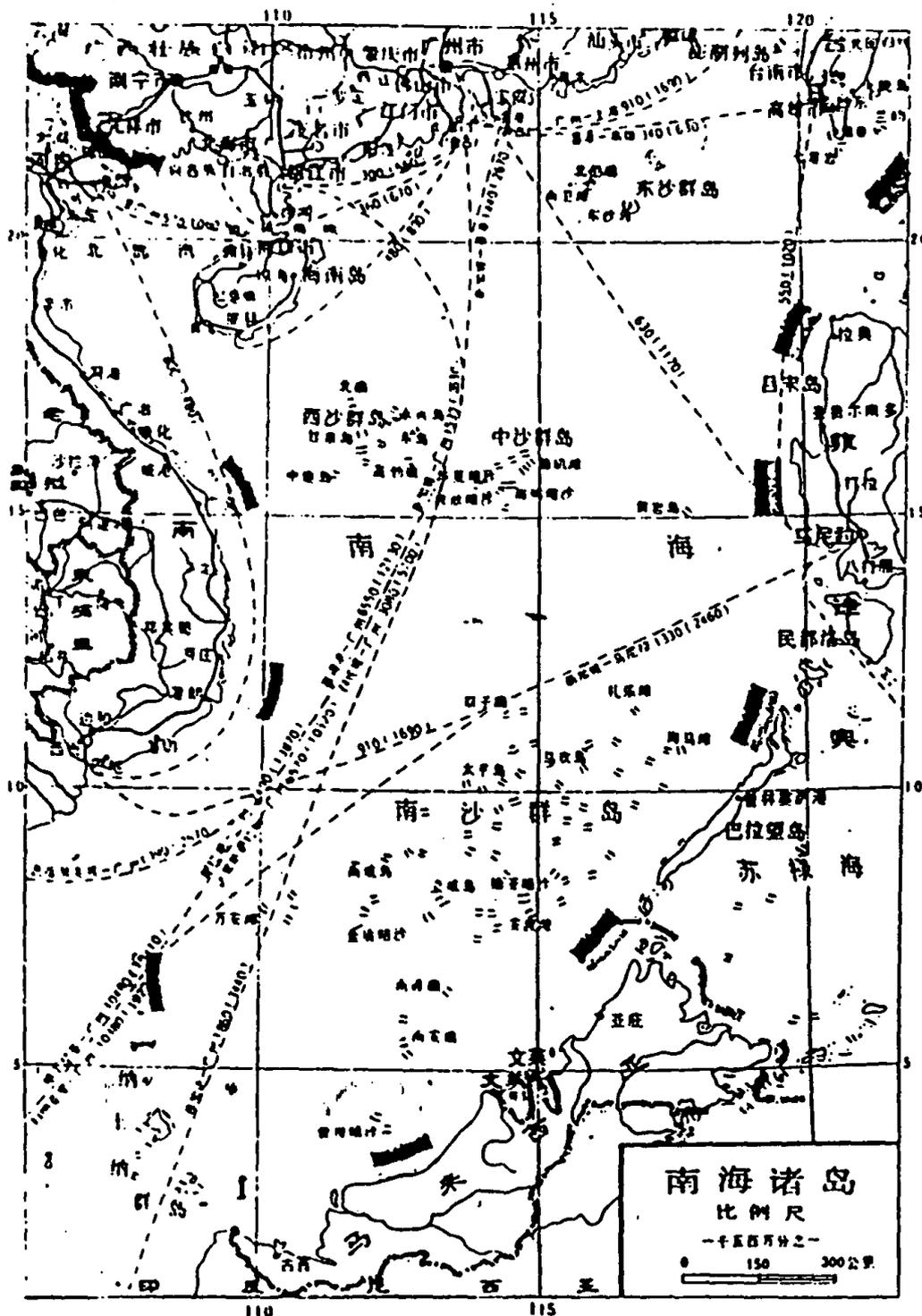


APPENDIX 2

Map 1: Spratly Islands dispute

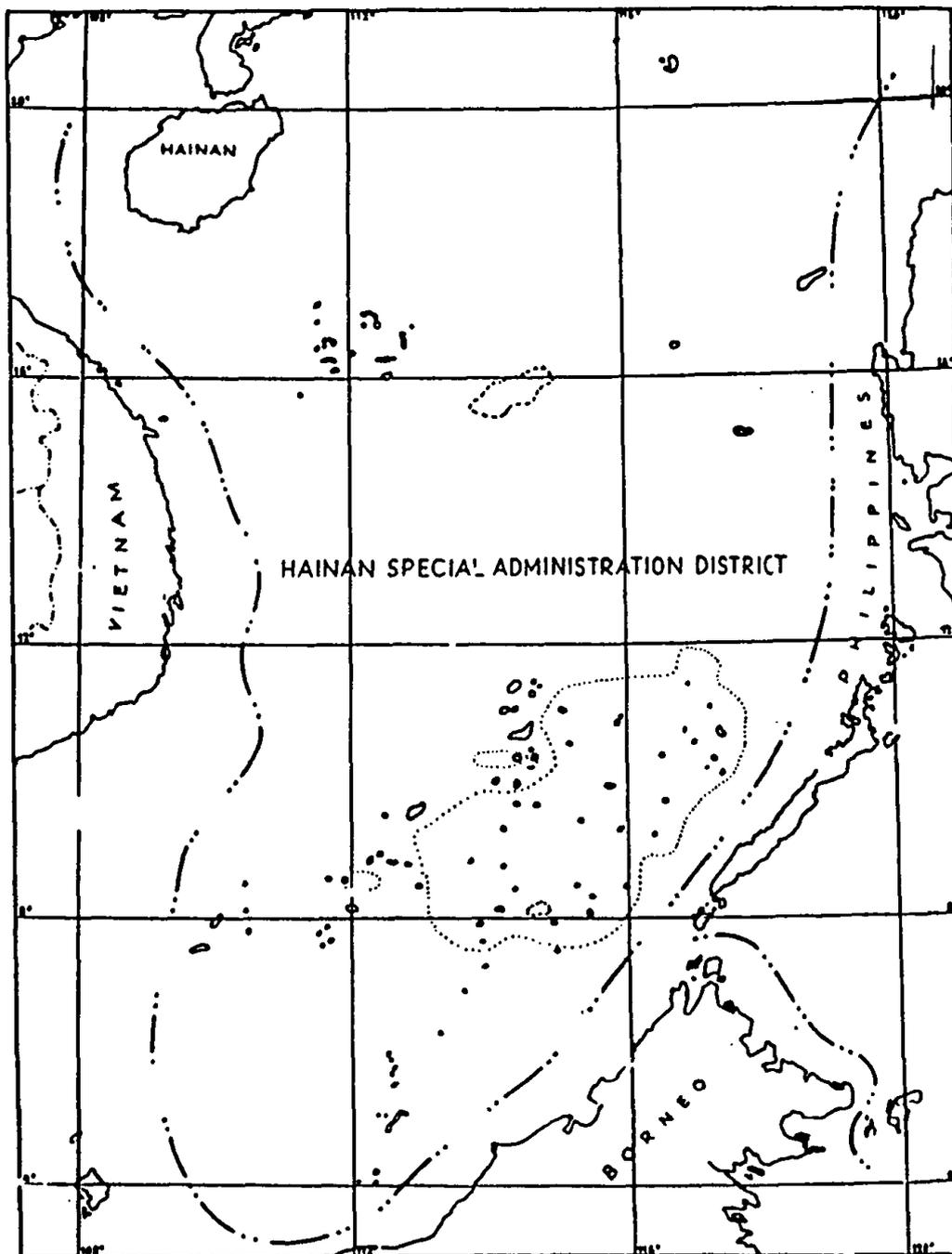


Map 2: The boundaries in the South China Sea as drawn by Beijing



Sources: Chung-hua jen-min kung-ho-kuo (i-fu, Beijing 1965, 3rd Edn. 1972 (detail).

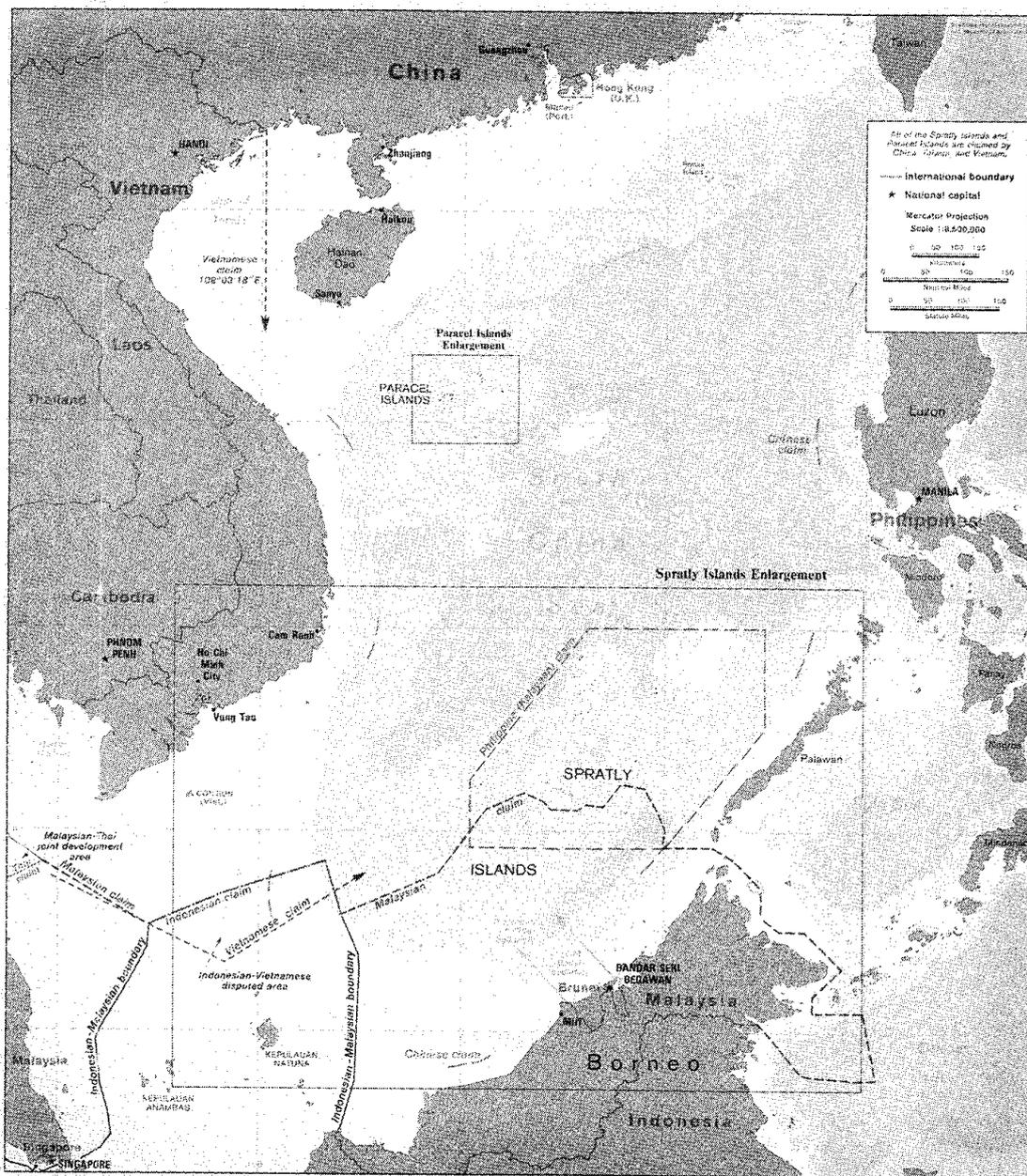
Map 3: The boundaries in the South China Sea as drawn by Taipei



Sources: Chart based on Chung-hua min-kuo ti-fu chi, ti szu ts'e Chung-kuo nan-pu, 2nd Edn, Taipei 1964



Map 5:



681548-201150-0-02



### **Annex 706**

Clive Symmons, “Some Problems Relating to the Definition of ‘Insular Formations’ in International Law: Islands and Low-Tide Elevations”, *IBRU Maritime Briefing*, Vol. 1, No. 5 (1995)



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## **Some Problems Relating to the Definition of Insular Formations in International Law - Islands and Low-Tide Elevations**

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The opinions contained herein are those of the author and are not to be construed as those of IBRU

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## Some Problems relating to Definition of ‘Insular Formations’ in International Law: Islands and Low-tide Elevations

*Clive R. Symmons*

### 1. Introduction

#### 1.1 ‘Insular Formations’

The term ‘insular formations’, which is not a term of art in the Law of the Sea, is used advisedly in this *Briefing* to include those formations which **are** included by treaty law as legal terms, namely islands and low-tide elevations. They must be naturally-formed elevations,<sup>1</sup> surrounded by water, which because of permanent (or sufficiently periodic appearance) above a requisite tidal level, have some effect on the generation of maritime zones for the owning State, including an effect on the fixing of maritime boundaries with neighbouring States where notional zones overlap.<sup>2</sup> In many areas of the world there are isolated (or collective groups of) formations which are only just above sea level<sup>3</sup> and which are only of interest to States because of their generative capacity in respect of maritime zones. Because such (naturally-created) formations retain an appearance above water at some state of the tide, descriptive phraseology such as ‘insular formations’ can be loosely justified for the purposes of discussion.<sup>4</sup> Such formations now include, in international legal terms, some supplementary sub-divisions introduced by the LOSC (Law of the Sea Convention) of 1982 such as ‘rocks’ and ‘reefs’.

The importance of ‘insular formations’ in both the creation and the delimitation<sup>5</sup> of maritime zones is well established in the Law of the Sea. There are many instances where one State has denied the term ‘islands’ to dubious formations claimed as ‘islands’ by another.<sup>6</sup>

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<sup>1</sup> See e.g. Symmons, 1979: 29-37.

<sup>2</sup> See e.g. *ibid*, Chapter IV.

<sup>3</sup> As e.g. some of the much-disputed Spratly Islands. See Thomas, 1990: 413, "*many of the features on which outposts have been set up are mere islets or cays - some even submerged reefs which have had to be built up to create dry land*", and who cites (*ibid*), Article 60 of the LOSC which excludes use of artificial islands for generation of 200 mile exclusive economic zones. It is noteworthy that Malaysia is reported to have specially classified Shallow Reef and Amboyne Cay (two formations to which it lays claim the Spratly Group) as ‘islands’ under Article 121 (3) of the LOSC; whereas it has classified two other formations as mere ‘low-tide elevations’: see Gardiner, 1994: 61, 67.

<sup>4</sup> See e.g. Jayewardene, 1990: 7, who describes low-tide elevations as "*insular features*".

<sup>5</sup> The term "*delimitation*" here denotes a situation where a notional overlap of neighbouring maritime zones has to be settled in the form of agreed inter-State boundaries.

<sup>6</sup> See e.g. the view of Qatar, contrary to the claim of Bahrain, that two disputed formations were "*shoals*" and not "*islands*". It seems this view was expressed by the UK Government in 1947 (shoals not having territorial waters although **above** low spring-tide level), but changed in 1950, when the UK considered "*after a full examination of the position under international law*" that both reefs could generate territorial waters as "*islands*" (unpublished Supplementary Qatari Memorandum relating to the Shoals of Deeble and Jaradah, 1965:1).

## 1.2 Islands

Of the two basic above-mentioned 'insular formations' known to international law, it is the 'island' which is of most legal importance. In view of its importance in the fixing of maritime zones, its definition in international law (and not simply in geographical terms<sup>7</sup>) can be a vital matter, as this writer knows from recent experience as an expert witness in US Federal/State litigation which *inter alia* hinged on this very issue in a US-Alaska dispute over seabed rights in the Beaufort Sea.<sup>8</sup> Unfortunately, even the new LOSC the definition of this type of formation has elements lacking in clarity (and, indeed, in their consequential subdivisions in the 1982 LOSC regime). For example, at least four legal requirements can be teased out of the definition in Article 121(1) of the LOSC (repeated from Article 10 of the 1958 Convention on the Territorial Sea and Contiguous Zone (hereafter TSC)), which defines an island as "*a naturally-formed area of land, surrounded by water, which is above water at high-tide*". These are that: the formation (to use a neutral word) must be "*land*"; that this must be "*naturally-formed*"; that it must be "*surrounded by water*"; and lastly - and perhaps, most importantly - that it must be "*above water at high-tide*" - a definitional aspect often neglected or sidetracked by academic commentators.<sup>9</sup>

Space limitation for this *Briefing* forbids a comprehensive analysis of all these requirements of a juridical island in any depth. So that it is on the last criterion - the above-surface requirement (in the case of an island, above **high-tide**, in the case of a low-tide elevation, its above **low-tide**) - that this *Briefing* concentrates. But this in turn inter-relates with many of the other problematical aspects of the definition. For example, the requirement of the elevation being "*naturally-formed*".<sup>10</sup>

### 1.2.1 'Naturally-formed'

There are many examples - especially in recent times - where States have attempted to preserve true insularity for a small formation by artificial building-up processes - e.g. on a formation in danger of erosion by natural forces (or even sinking because of man-made ones<sup>11</sup>). This, for example, has happened in the case of some Pacific reefs which have only marginal above-surface natural features, as in the case of Tokelau and Tele ki Tonga reefs in the Pacific where the natural **above-water** features have been described as "*probably impermanent*" in the marginal form of a few coral boulders "*hurled onto the reef by storm surges*"<sup>12</sup>, hence Tonga's efforts at reef-building here.<sup>13</sup> Even in the western hemisphere, volcanically-formed islands such as tiny Kolbeinsey off Iceland, said to be in danger of being

<sup>7</sup> See e.g. Cotter, 1965: 59.

<sup>8</sup> In *US v. Alaska, No. 84, Original*, before the Special Master of the US Supreme Court. Although at the time of writing, the Special Master had still not given judgment in this long-running State/Federal litigation, reference is made to the pleadings in this case and to the writer's own expert witness Opinion of 1985 (published as Exhibit US 84A-602) in this *Briefing*.

<sup>9</sup> See e.g. Jayewardene, 1990: 7, an "*island*" should be an "*elevation above the surface of the sea*".

<sup>10</sup> For a full discussion see Symmons, 1979: 29.

<sup>11</sup> E.g. nuclear testing on Mururoa Atoll (see *The Times*, 7/12/1981) and gravel extraction from the Thousand Islands off Indonesia where several are reported to be in danger of disappearing: *The Times*, 19/6/1985.

<sup>12</sup> Prescott, 1988a: 199.

<sup>13</sup> *Ibid*

eroded back below sea level, have been subject to ‘island-building’ activities. In Kolbeinsey’s case the Icelandic authorities have reportedly planned to ‘cement’ the island together to prevent the sea from eroding the last few remaining rocks.<sup>14</sup> And - perhaps most dramatically - in the eastern hemisphere, in the late ‘80s, it was reported that Japan feared that its southernmost islet of Okinotorishima - consisting at high-tide of only two small peaks (respectively between 17 and 7 feet in diameter) - was in danger of disappearing as an ‘island’ in international law, so losing Japan up to 160,000 square miles of seabed and fishery jurisdiction.<sup>15</sup> One of these peaks was reportedly no more than 20 inches to 3 feet above high water; and both are situated on an otherwise submerged reef which is itself some 10 feet under water. Hence Japan commenced in 1988 efforts to keep these peaks above high water by surrounding them with wave-absorbing steel blocks and concrete rising **higher** than the enclosed (natural) peaks themselves.<sup>16</sup>

Most controversially of all, a State may attempt to **create** insularity by building up an underwater formation which has never naturally protruded above high-tide level. In the Japanese case mentioned above, putting up an artificial structure alone was ruled out because international law requires the portion remaining **above** high-water to be naturally-formed.<sup>17</sup> Ironically Article 7(4) of the LOSC does give limited legal sanction to this stratagem for a very confined legal purpose mentioned below where “*lighthouses or similar installations*” which are “*permanently above sea level*”<sup>18</sup> have been built on a low-tide elevation.

It seems clear that in essence the “*above high-tide*” requirement relates to the **naturally-formed** element of such a man-enhanced ‘island’, so that whereas man-made attempts to preserve the **natural above high-water aspect** of an eroding formation may not disqualify its legal insularity, any similar attempt to create such status on a formerly **wholly-underwater** formation will be to no legal effect.<sup>19</sup>

### 1.2.2 ‘Land’

Likewise - though this point has seemingly never received any significant academic comment<sup>20</sup> - the meaning of ‘land’, even where undoubtedly naturally-formed, can cause legal definitional problems in connection with the above-water requirement. This, for example, occurred in *US v. Alaska*<sup>21</sup> where one of the difficulties concerning a formation known as ‘Dinkum Sands’ was whether a formation arguably above mean high-water, as maintained by Alaska could still be considered an ‘island’ when its composition (possibly from the seabed upwards) appeared to be of alternating layers of frozen sea-ice and gravel deposits from long-shore drift. Is the frozen sea-water content (including the so-called “*excess ice*”) - as compared with the truly-terrestrial gravel content in this instance - to be **deducted** from the calculation of the formation’s true **above-water** height in international

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<sup>14</sup> *The Daily Telegraph*, 25/4/1985.

<sup>15</sup> In 1977 Japan had declared a 200 mile EEZ around it: *The Daily Telegraph*, 20/10/1988.

<sup>16</sup> *Pacific Stars and Stripes*, 16/11/1989; *The Daily Telegraph*, 20/10/1988. This operation was, therefore, strictly for land protection purposes, not for island-**building** purposes.

<sup>17</sup> *Pacific Stars and Stripes*, *ibid.* See also Symmons, 1979: 35.

<sup>18</sup> See Jayewardene, 1990: 72.

<sup>19</sup> See Symmons, 1979: 35.

<sup>20</sup> But see *ibid.*: 21.

<sup>21</sup> *Supra* footnote 8.

law? If so, such a natural formation may not qualify as an 'island'<sup>22</sup> (or even, as the case may be, a low-tide elevation) because such a **notional** reducing process may put the formation at a far lower level and below-water. Thus it may be validly argued in this context that a true island does not lose its elevation through temperature rises and maritime zones do not come and go with changes in the season.<sup>23</sup>

### 1.2.3 'Surrounded by water'

Even perhaps one of the least-discussed and so least controversial elements of the definition - "*surrounded by water*" - inter-relates with the above-surface problem generally in that some apparent 'islands' (or indeed low-tide elevations) may be linked to the mainland (or another 'island') by a periodically drying feature such as a sand-bar.<sup>24</sup> Similarly in Arctic and Antarctic areas, coverage by pack-ice of another detached formation from the mainland arguably destroys a terrestrial formation's status as an island by depriving it of surrounding 'water' for most (or even all) of the year, so arguably making it, at most, a 'summer' island.<sup>25</sup>

If a formation is truly linked to the mainland, or another island in a sufficiently permanent way at high-tide (or low-tide in the case of low-tide elevations), then it assumes part of that linked coastal regime, and generates maritime jurisdiction accordingly by lack (or loss) of independent insular status.<sup>26</sup> So in fact this aspect of insular definition is not likely to be a problem in practice because, *a fortiori*, a mainland coastline possesses a baseline.

### 1.2.4 Other suggested legal elements of insularity

Other past suggested elements of insular definition only indirectly affect the vital above-water element of insularity. These have included elements such as habitability or size,<sup>27</sup> and have found no place in the present-day definition of an island (or, *a fortiori*, a low-tide

<sup>22</sup> This was my stated opinion in my expert witness report in the case.

<sup>23</sup> See US *Post-Trial Memorandum*: 76, 78, 79, 104 ("*ice collapse*" or "*thermo-erosion*" in summer months). Cf. the Alaskan argument - ice below-water **may** be considered land (*Alaska Reply Brief*: 24).

<sup>24</sup> See Symmons, 1979: 41.

<sup>25</sup> See the *Post Trial Brief* of Alaska: 6, 7, and 10; cf. the US *Reply Memorandum* where the US accused Alaska of arguing inconsistently that ice is water for the purpose of one criterion of definition of an island (surrounded by water) but is land for another (naturally-formed area of land).

<sup>26</sup> See e.g. the Dissenting Opinion of Judge Evensen in the *Libya/Tunisia Delimitation* case (1982) ICJ Report 18: 30 (describing Djerba off Tunisia as "*scarcely an island*" **at low-tide**). Problems of insular status may also arise where an "*island*" is artificially linked to the mainland (e.g., by a causeway) (loss of insularity?) or where an entire natural peninsular has a canal cut through it (acquisition of insularity?): see e.g. Herman, 1985: 172, 188 footnote 46. Cf. in the context of the regime of **bays** the dictum in the *Louisiana Boundary* case (394 US 11 [1969]): 67 "*...while there is little objective guidance [on the meaning of natural entrance points to bays] to be found in international law, the question whether a particular island is to be treated as **part of the mainland** would depend on such factors as its size, its distance from the mainland, **the depth and utility of the intervening waters**, the shape of the island, and its relationship to the configuration and curvature of the coast*" (emphasis added).

<sup>27</sup> See Symmons, 1979: 45-51, 37-41.

elevation), though elements of both (either expressly or implicitly) have now gained a vestigial foothold in the LOSC definition of the new concept of 'rocks' (see below).

## 2. The Regime Attaching to 'Insular Formations' Known to International Law - Islands and Low-Tide Elevations

### 2.1 Islands

The most typical (and most legally important) insular formation in the Law of the Sea is, of course, an 'island' as now defined in Article 10 of the 1958 TSC, and as repeated verbatim in Article 121(1) of the LOSC 1982, namely (as seen), "*a naturally-formed area of land, surrounded by water, which is above water at high-tide*". A formation of this nature, **wherever situated**<sup>28</sup> and of whatever size<sup>29</sup> (unless under the new LOSC regime it incidentally constitutes a 'rock' (see *infra*)), generates all the maritime zones now known to the Law of the Sea - territorial sea, contiguous zone, 200-mile exclusive economic zone (EEZ) (or exclusive fishery zone) and a continental shelf.<sup>30</sup> This is now explicitly confirmed in Article 121(2) of the LOSC 1982;<sup>31</sup> and implicitly islands may also generate internal waters (and, in appropriate circumstances of insular grouping, archipelagic waters).

Additionally, if an island is in the vicinity of a landmass – continental, or even insular - it may enhance that landmass' maritime areas by dint of coalescence of zones, or by constituting an "*appropriate point*" from which to draw a straight baseline system under Article 4 of the TSC (now Article 7 of the LOSC 1982)<sup>32</sup> (or in the case of a qualifying archipelagic State, an archipelagic baseline system<sup>33</sup>), so further extending the owner's maritime territory.

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28 Compare the legal effect of a *low-tide elevation* *infra*.

29 See Symmons, 1979: 37.

30 *Ibid*: Chap.3.

31 This reads: "*Except as provided for in paragraph 3, the territorial sea, the contiguous zone, the exclusive economic zone and the continental shelf of an island are determined in accordance with the provisions of this Convention applicable to other land territory*".

At least one State has very recently claimed "*internal waters*" from coalescing off-shore insular zones not incorporated in a straight baseline system. See the Act on the Marine Areas of the Islamic Republic of Iran concerning the Persian Gulf and the Oman Sea (1993), Article 3: "*waters on the landward side of the baseline of the territorial sea, and waters between islands... (not further than 24 miles apart), form part of the internal waters (of Iran)..*" (emphasis added): see *Law of the Sea Bulletin* No. 24 (1993): 10. There have been suggestions made by some commentators since the 1930 Hague Conference that pockets of high seas landward of interconnecting insular territorial seas should be eliminated by being converted into territorial sea areas. See the survey in Briscoe, 1987: 32-34. These suggestions have no basis in the present Law of the Sea. Thus, for example, when Australia drew a three-mile territorial sea around all formations on the Great Barrier Reef which it considered to be islands, several small high seas enclaves were then created within this territorial sea regime.

33 See Article 47 (1) of the LOSC ("*outermost islands*" of an archipelago).

Likewise in the case of notionally overlapping zones with neighbouring States, islands<sup>34</sup> may help boost their owner's share of the overlapping zone - including a continental shelf and 200-mile EEZ or fishery zone - by generating such zones in coalescence with the mainland or in isolation from it; or by constituting basepoints (to a greater or lesser degree) for median line (or allied) purposes of delimitation, unless, for example, they are (in continental shelf delimitation) disqualified either as being "*special circumstances*" under Article 6 of the 1958 Continental Shelf Convention (CSC) or in accordance with equitable principles under the LOSC.<sup>35</sup> There are in fact many examples throughout the world where an isolated small formation - technically an 'island' - such as a rock which is only **marginally** above sea level, has caused maritime disputes.<sup>36</sup>

## 2.2 Low-Tide Elevations

The second basic type of insular formation known to the Law of the Sea is the low-tide elevation. This is defined in Article 11 of the TSC (as confirmed in Article 13 of the LOSC) as a "*naturally-formed area of land which is surrounded by water at low-tide but submerged at high-tide*". Just like the definition of 'rocks' (see below), so also in the case of low-tide elevations, many of the basic insular requirements mentioned above apply with, of course, the notable *exception*, as its very appellation necessarily suggests, of having to be above surface at **high-tide** like an island. As legally-defined, therefore, such a formation need only surface at **low-tide**. Though here, as in the case of an island, there is a problem relating to the appropriate tidal datum (see below).

Such a formation differs in a vital way in its zone-generative capacity as compared with an island in that it may only constitute a 'baseline' from which to draw maritime zones if it is wholly or partly within the territorial sea of its owning State's mainland or island, unless it qualifies as an appropriate fixing point under the straight baselines provisions of Article 7(4) of the LOSC where (anomalously) low-tide elevations may be used for this baseline purpose if:

*"lighthouses or similar installations which are permanently above sea level have been built on them or ...in instances where the drawing of baselines to and from such elevations has received general international recognition".*<sup>37</sup>

<sup>34</sup> Some contentious small formations, such as Rockall, are well above high-tide level; and are obviously islands; but many are not.

<sup>35</sup> See Article 83 of the LOSC (delimitation "*by agreement on the basis of international law*" as referred to in Article 38 of the ICJ Statute "*in order to achieve an equitable solution*").

<sup>36</sup> See e.g. Ong, (1992) 8: 221, 222, who confirms that Malaysia/Thailand negotiations over a continental shelf boundary in the south-west of the Gulf of Thailand broke down because of disagreement by Malaysia over use by Thailand of a rock, Ko Losin, only 5ft above high-tide, situated 39 nms off Thailand.

<sup>37</sup> The latter proviso wording ("*received general international recognition*") is not to be found in the previous TSC provision in Article 4(3). Note also that in the context of the straight **archipelagic baseline system**, Article 47(4) of the LOSC does not repeat this same wording but does allow, in Article 47(1), "*drying reefs*" (not defined here) as basepoints. In possible distinction with the case of atolls and islands with fringing reefs (see *infra*), such reefs - as they have to be "*drying*"- would also approximate to low-tide elevations, though in their case they would not need, as in the case of the more general concept thereof, to be within the territorial sea width of the nearest island (as required in paragraph 4).

The change in terminology here from “*above high-tide*” to “*above sea level*”, although anomalous, appears to have no special significance.<sup>38</sup>

As such its value as a basepoint for pushing out maritime zones is **geographically limited to a coastal location** and in this sense its zone-generative capacity (or qualification as a basepoint for delimitation purposes, e.g. a median line) can be said to be basically “*parasitic*”<sup>39</sup> to the mainland as compared with an island where location is, for such purposes, largely irrelevant because of its independent zone-creating capacity.

Accordingly, if a low-tide elevation is situated outside a territorial sea, it creates no jurisdictional advantages for its owner, and in this situation, it is no more than a navigational hazard.<sup>40</sup> Thus, to call such a formation “*an insular formation*” in **this geographical context** may be a misnomer because here it attracts no maritime regime.<sup>41</sup> Indeed, even where such a formation has zone-generative capability, it may be stretching strict terminology to call such a formation the *equivalent* of an island. However, in the latter situation several States, including the UK, have defined such a formation in their domestic legislation as if it were a ‘fictive’ island.<sup>42</sup> And in the past, before the 1958 regime materialised, there was evidence of State practice and academic opinion which equated low-tide elevations with islands proper, despite their location,<sup>43</sup> though such could never be considered as “*islands in every respect*”.<sup>44</sup>

Any past apparent amalgamation in State practice of the two legal regimes is not surprising considering that clarification between the two only came after the 1958 TSC.<sup>45</sup> What is surprising is that an element of this conflative approach can still be detected in the post-1958 State practice.<sup>46</sup>

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38 Symmons, 1979: xii.

39 See Briscoe, 1987: 5.

40 Dipla, 1984: 62, describes this phenomenon in strange terms - if such a formation is on the high seas, it is not considered “*comme une île*” (like an island).

41 Apart, of course, of constituting part of the seabed regime e.g. for continental shelf purposes. Sometimes such elevations have been confirmed to be part of the seabed in bilateral treaty, as in the Australia/PNG Agreement: see *infra* footnote 75.

42 See *infra* footnote 124. And note e.g. the US reply at the 1930 Hague Codification Conference that “*each body of land any part of which lies within 3 nms of the continental mainland shall be regarded as an island*”. One of most recent examples is the Belize legislation (laid out in the UN *Law of the Sea Bulletin* No.21: 3) where section 4(2) states: “[f]or the purposes of this Section, a low-tide elevation which lies wholly or partly within the breadth of the territorial sea which would be territorial sea if all low-tide elevations were disregarded for the purpose of the measurement thereof shall be treated as an island”.

43 See Dipla, 1984: 63.

44 See Jayewardene, 1990: 72.

45 low-tide elevations (or “*rocks awash*”) were often treated as being equivalent to an “*island*”, particularly in certain regional areas such as Scandinavia. Dipla, (1984: 32) views the Scandinavian practice of treating low-tide elevations as “*islands*” as being attached more to the straight baseline system than the definition itself of “*islands*” and as being of a “*purely regional character*”. Cf early British colonial practice below.

46 See footnote 42 above.

### 3. Insular Sub-Categories: Rocks and (Fringing) Reefs

#### 3.1 Rocks

As a result of the LOSC, 1982, a more disadvantaged form of 'island' has been introduced under Article 121(3), namely a 'rock' which "*cannot sustain human habitation or economic life*" of its own. Such a formation is specifically disqualified from generating the two major maritime zones of continental shelf and 200-mile EEZ (Article 121(3)). Much ink has been spilt on the definitional aspects of such a formation. For much ambiguity resides as to what is the meaning of 'rocks' (as the plural version has it in the LOSC reference<sup>47</sup>) - a term which is not specifically defined;<sup>48</sup> and perhaps more particularly, the meaning of the qualifying phrase "*which cannot sustain human habitation or economic life of their own*".<sup>49</sup> Less academic attention has been paid to the fact that such rocks must **still comply in other respects with the definition of an island proper in this context**,<sup>50</sup> most particularly that they are naturally-formed (as the very word 'rocks' implies in any event), and that they are above surface at high-tide<sup>51</sup>, though neither of these requirements is specifically spelt out in the LOSC text in their connection. For in their **residual** insular capacity they may generate for their owner, by implication<sup>52</sup>, a territorial sea and contiguous zone, as well as constituting an appropriate point for a straight baseline system, or (more controversially) a potential basepoint for fixing a boundary (e.g. median line) in maritime delimitation situations.<sup>53</sup>

So, depending on the interpretation of the word 'rocks' - and whether this has a literal geographic/geological meaning (which in the writer's view is not so),<sup>54</sup> it appears that an 'island' proper in its broad essential features (apart, of course, from the habitability/economic life aspects) may only differ from 'rocks' insofar as the latter's natural **composition** is, arguably, definitionally important in contrast to the broader concept of 'land' in the definition of an 'island'. Thus in respect of the vital "*above high-tide*" requirement, there is no difference between 'rocks' and 'islands'.<sup>55</sup>

47 Cf in the Convention's **definitional** reference in the **singular** to "*island*" and "*low-tide elevations*".

48 See e.g. Alexander, 1987: 272, 273; also Dipla, 1984:42.

49 For a recent survey of this literature, see Symmons, 1994: 82-83. And see recently the interesting 'declaration' of Iran on signature of the LOSC (para. 5) ("*islets situated in enclosed or semi-enclosed seas which potentially can sustain human habitation or economic life of their own, but due to climate conditions have not yet been put to development, fall within the provision of para. 2 of Article 121 concerning 'Regime of Islands', and have, therefore, full effect in boundary delimitation of various maritime zones of the interested coastal states*": see UN *Law of the Sea Bulletin*, 25: 30).

50 See e.g. Symmons, 1979: 5.

51 See Alexander, 1987: 273 (and below).

52 See e.g. Symmons, 1979: 5.

53 *Ibid*:164.

54 *Ibid*:56.

55 See e.g. Dipla, 1984: 41 ("*les rochers découverts a marée haute*" ('rocks exposed at high-tide') are "*îles*" ('islands'), though not "*normales*" ('normal ones') [author's translation]).

### 3.2 (Fringing) Reefs

Although not mentioned in the 1958 regime,<sup>56</sup> ‘reefs’ get no less than two separate mentions in the 1982 LOSC. Firstly in Article 6 thereof (entitled ‘reefs’), certain reefs may have baseline implications in a confined geographical situation (i.e. in the case of “*islands situated on atolls or islands having fringing reefs*”): they may be used as a territorial sea baseline along their “*seaward low-water line as shown by the appropriate symbol on charts officially recognised by the coastal State*” (Article 6, LOSC). ‘Fringing reefs’ - like ‘rocks’ mentioned above - are not legally defined in the Convention.<sup>57</sup> Such ‘reefs’ have (in the same way, possibly, as ‘rocks’) a distinct geographical connotation, they appear not necessarily to be required to have an **above-water** elevation. Such ‘reefs’ (which do not necessarily have to be of coral<sup>58</sup>) do not, therefore, on one interpretation, constitute what in this *Briefing* has been described as ‘insular formations’, except of course, insofar as they **may** incidentally protrude permanently above high-tide level<sup>59</sup> or make appearance at low-tide (so overlapping respectively with islands and low-tide elevations<sup>60</sup>). In the latter case, if situated wholly or partly within the breadth of the territorial sea, they may, in a broader definitional context, push out that zone like any other low-tide elevation.<sup>61</sup> Thus insofar as ‘reefs’ may overlap with the definition both of islands or low-tide elevations, the same rules applying to each of these regimes apply (albeit residually) to such ‘reefs’.

The LOSC regime appears to give such reefs “*specific recognition*” in that, most particularly, they **may** differ from low-tide elevations in being “*usually covered by water*”<sup>62</sup> and so may not even be (always) visible at low-tide. However, the ultimately-changed LOSC wording mentioning the “*low-water line*” (emphasis added) is to be the baseline of the reef, implies that **submerged** reefs are excluded from such baseline consideration,<sup>63</sup> as they must (arguably) be drying “*in the sense that they must be above water at some point in order to possess a low-water line*”.<sup>64</sup> As against this it has been argued for practical reasons that in the case of reefs as marked on normal charts the “*seaward edge*” of the reef should be regarded as the **equivalent** of the seaward low-water line,<sup>65</sup> and that straight baselines may be drawn across any channels intersecting the reef.<sup>66</sup> On balance, from an interpretive point of view, the phrase “*low-water line*” does appear to imply (as indeed was the Drafting Committee’s intention), restriction of the provisions to “*drying reefs*” to the exclusion of “*submerged reefs*”.<sup>67</sup>

<sup>56</sup> Kawaley, 1992: 41: 152, 156.

<sup>57</sup> See Herman, 1985: 191; nor indeed are “*atolls*” as such: see Dipla, 1984: 47.

<sup>58</sup> See Jayewardene, 1990: 96.

<sup>59</sup> *Ibid*: 95.

<sup>60</sup> Kawaley, 1992: 157.

<sup>61</sup> Jayewardene, 1990: 95. Cf Herman, 1985: 192, who suggests that a low-tide elevation may be distinguished from a “*reef*” on the basis that a “*low-tide elevation is made up of land while a reef is not*”. This view seems misconceived, as there seems to be no doubt in international legal terms that coral would qualify as “*land*” in the definition of insular formations.

<sup>62</sup> Jayewardene, *ibid*: 89, 91.

<sup>63</sup> *Ibid*: 96.

<sup>64</sup> Herman, 1985: 193.

<sup>65</sup> Jayewardene, 1990: 96.

<sup>66</sup> *Ibid*: 98.

<sup>67</sup> Noted by Kawaley, 1992: 157 and Jayewardene, 1990: 96.

It follows from this that insofar as such reefs may **not** also qualify as 'insular formations', they are, in general legal terms, essentially a shallow area of the seabed in a *sui generis* legal category.<sup>68</sup> The same situation would appear not to apply to the second - and quite separate - mention of reefs as basepoints - that is in the context of archipelagic straight baseline systems allowed in Article 47(1) of the LOSC where 'drying reefs' of an archipelago<sup>69</sup> in an archipelagic State may be used as connecting basepoints. Here it has been argued that such reefs may be similar to low-tide elevations in that the use of the word 'drying' implies at some point the reef is entirely submerged..while at other times (low-tide) "*it is emergent*".<sup>70</sup> These definitional difficulties may entail practical problems, as it seems that **both** these LOSC category of 'reefs' operate in a broader way than low-tide elevations; namely that there is no explicit **intra-territorial sea** distance criterion with which they have to comply to create maritime zones, except insofar, of course, that as regards the first category of reefs at least, the epithet 'fringing' has a connotation of some proximity to the coast.<sup>71</sup>

#### 4. No Third Insular Category in International Law

It follows from the above that the two basic categories of insular formations having legal importance in the Law of the Sea are 'islands' proper (with their possible insular sub-division now of 'rocks'<sup>72</sup>) on the one hand, and low-tide elevations (including, in some cases, reefs) on the other. So if one excludes 'reefs' which may (arguably) in the case of the 'fringing reefs' situation at least (Article 6 of the LOSC) have permanent underwater characteristics and so no insular qualities, there is, as it were, no **insular tertium quid**.<sup>73</sup> This must mean that an alleged 'island' which, on the requisite tidal or other datum, does not appear for sufficiently long periods above the high-water level, may have to fall into the **residual** catch-all "*low-water elevation*" category despite its occasional apparent insular characteristics (see below); i.e. inasmuch as it does not constantly **submerge at high-tide**.<sup>74</sup> Likewise, if an

<sup>68</sup> See O'Connell and Shearer, 1982: 195 (submerged reefs may be in the category of "other features which the [two-fold insular category] dichotomy does not adequately comprehend").

<sup>69</sup> At the Third UN Conference on the Law of the Sea (UNCLOS III), it has been commented that there was seemingly little discussion on the meaning of an "*archipelago*": See Herman, 1985: 189.

<sup>70</sup> Herman, 1985: 193.

<sup>71</sup> Cf the same epithet phrase "*fringing islands*" in Article 7 of the LOSC. See Churchill and Lowe, 1988: 44. Not surprisingly, some national legislation has spelt out the meaning of this phrase: see e.g. the definition in the recent Belize maritime legislation (UN *Law of the Sea Bulletin* no. 21: 4) "*fringing reefs*' means reefs attached directly to, or located in the immediate vicinity of, the coast or any coastal lagoon"). In the case of the second category of reef (i.e. in an archipelagic system), the provisos as regards inclusion of the "*main islands*" and the requisite land to water ratio may eliminate too distant reefs.

<sup>72</sup> Appropriately named in non-legal jargon as "*non-conforming islands*" by one geographer: Alexander, 1987: 273.

<sup>73</sup> Such e.g. as the common geographical term "*islet*". See Hodgson, "Islands and Special Circumstances", in Gamble and Pontecervo, 1973: 137, 173; and the French argument in the *Western Approaches* case, *infra*.

<sup>74</sup> See, e.g., Phillips, 1971: 129,134, "*a low-tide elevation in terms of the Geneva Convention [i.e. the TSC] is a land feature that is bare at any stage of the tide between low-water datum and the plane of mean high water*".

alleged low-tide elevation does not appear for sufficiently long periods at **low-water**, its legal status is simply part of the seabed.<sup>75</sup>

There is then, in the present Law of the Sea (with the possible exception of certain types of reefs), no **hybridised** concept like an “*occasional*” island or low-tide elevation.<sup>76</sup> For example, in the latter case, the predominant definitional requirement may be said to be the regular periodic **low-tide appearance** rather than, on the other side of the coin, the regular **high-tide disappearance** of same.<sup>77</sup>

## 5. The Effect of Agreement or Estoppel on Insular Status

Occasionally, in the context of maritime boundary delimitation, there are examples of States **implicitly** accepting insular status for an apparently underwater formation. For example it appears from the France-Australia delimitation agreement concerning the EEZ off New Caledonia that a reef (Middleton Reef) may have been utilised “*even though it does not have any features which stand above high-tide*”;<sup>78</sup> and that likewise in the 1983 Fiji-France Agreement, a dubious insular formation called “*Cera-i-Ra*” - a reef surmounted by a sand cay - “*has been recognised as an island*”.<sup>79</sup> Likewise, a bilateral treaty may (more exceptionally) **explicitly** confirm, as between the parties, the status of a dubious formation as an existing island; or as a permanent island even if it should in fact lose any insular characteristics **in the future**. This occurred in the Australia-PNG treaty of delimitation.<sup>80</sup>

Another way in which international law can bestow insular status on an otherwise dubious formation is by implied acceptance or acquiescence by another State (or States) - particularly where the doctrine of estoppel applies. Thus, for example, in the arbitral decision in the

<sup>75</sup> Sometimes a bilateral treaty has specifically relegated low-tide elevations to the **seabed** regime. For a good example of this see Article (1)(i) of the 1979 PNG-Australia Maritime Boundary Agreement which defines “*seabed*” jurisdiction as entailing sovereign rights over the continental shelf in accordance with international law, including jurisdiction over low-tide elevations and the right to exercise such jurisdiction over such elevations. See Burmester, 1982: 339 “[b]ecause the area is full of low-tide elevations of one sort or another, it was thought desirable to put the matter beyond doubt”.

<sup>76</sup> Such, as, for example to allow a State **periodically to claim maritime zones from an intermittently qualifying formation**: this claim was made as a fall-back argument in respect of Dinkum Sands in the *U.S. v. Alaska* litigation before the Special Master, but was not argued seriously during the hearing. See *Joint Statement of Questions Presented and the Contentions of the Parties*, No. 84 (Original 1979): 13, 14(US) Alaska (“*In the alternative Alaska contends that it is entitled to the resources of Dinkum Sands formation and the submerged lands within a three mile radius for such periods as the formation is determined to possess a line of ordinary low-water*”).

<sup>77</sup> See e.g. the early definition of a low-tide elevation at the 1930 Hague Codification Conference (Basis of Discussion No. 14) where there is no mention of a necessity of submergence at **high-tide**: C.74.M.39 (1929) V. p. 52.

<sup>78</sup> Prescott, 1988a: 191.

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

<sup>80</sup> See Burmester, 1982: 321, 341. Here there was “*room for argument*” during negotiations over whether certain features “*actually amounted to islands in international law*”. Accordingly, Article 2 (2) of the treaty seems to fossilise insular status in one stated area, whereas Article 2 (3) (b) thereof is (*ibid.*: 341/2) said to be “*ambiguous about the position of future features that may emerge*” and the future ambulatory effect.

*Franco-British Western Approaches* Case, the Eddystone rocks, *quoad France*, were **in effect** treated as an island by the Court even though they were arguably (in their naturally-formed parts) not permanently above sea level.<sup>81</sup> This doctrine may also apply in a federal context where international law governs. See also *US v Alaska*, where Alaska alleged that the US federal official view in the pre-litigation period had been to treat a formation (Dinkum Sands) as an island.<sup>82</sup>

Likewise, it is possible for it to be bilaterally agreed (e.g., by treaty) that otherwise **viable** insular formations shall be deprived of such status, as for example, in the case of low-tide elevations being treated as part of the seabed.<sup>83</sup>

Conversely, refusal by other States to recognise insular status to an apparently non-qualifying formation can have important effects in depriving that formation of any regime. It may be observed that apart from isolated instances of States attempting to artificially conserve an erstwhile island by building it up or attempting to create insular characteristics (where none existed before) for maritime zone enlargement purposes, it has been very rare for a State to claim maritime zones from a **permanently submerged** feature - for example a shallower part of the seabed.<sup>84</sup>

Such a claim would be a "*contradiction*" in both geographical as well as a legal terms;<sup>85</sup> but such States as make such illegal claims may possibly treat such underwater formations as if they were "*pre-emptive islands*": for example, in the case of rapidly-growing coral reefs as islands in the making<sup>86</sup> just in the same way as a State claiming a straight baseline system independent of the low-water line (as in a delta situation) may "*have anticipated the emergence above sea-level of the submerged delta in the form of accretions to the mainland, islands or low-tide elevations*".<sup>87</sup> However, this is a spurious legal justification; and it is significant that even where one State has claimed such insular status for a non-qualifying formation, other States have invariably refused to accept such status when fixing their own zones.<sup>88</sup> Furthermore the Law of the Sea always remains the ultimate criterion of international legality, whatever a particular domestic decree may provide.<sup>89</sup>

<sup>81</sup> This was due to past French conduct in respect of the rocks by which they were found to have impliedly recognised the rocks as possessing a baseline: see *infra* Cf Fitzmaurice, 1959: 8: 73, 85 ("*in the absence of any special agreement to the contrary*, any natural formation permanently visible...at all states of the tide, generates a territorial sea" (i.e. is a true island) (emphasis added).

<sup>82</sup> *Supra* footnote 8. See *Reply Brief*: 8, 10, 44, 53.

<sup>83</sup> Cf the 1978 Australia-Papua New Guinea Delimitation Agreement. See Burmester *supra* footnote 80: 341.

<sup>84</sup> See e.g. the Chinese claim from Macclesfield Bank. Here there are 24 shoals, three reefs and two banks - "*all of which are under water*": Choon Ho Park, 1983: 203, 255.

<sup>85</sup> See e.g. Shalowitz, 1964: 172 ("*a contradiction*" to call a piece of land "*covered with one or two feet of water*" an "*island*").

<sup>86</sup> As in the case of the Macclesfield Bank claim *supra*: see Choon Ho Park, 1983: 255 who points out that the underwater formations appear to be growing upwards at a rate of some 10 centimetres a year.

<sup>87</sup> Jayewardene, 1990: 75.

<sup>88</sup> Note e.g., the New Zealand attitude to the Minerva Reefs which it does not recognise "*as a land formation*": Ridings, 1978: 261, 266. Prescott indicates that in fact there is "*no evidence*" that Tonga has "*contemplated using Minerva as basepoints*", but adds that, "*it seems certain that any attempt to do so would result in very strong opposition from New Zealand and Fiji*": Johnston and Saunders (eds.), 1988: 268, 300.

<sup>89</sup> See the famous dictum of Lord McNair in the *Anglo-Norwegian Fisheries Case* (1951) ICJ Rep: 116, 132.

## 6. Analysis of the Above-Tide Requirement in International Law

### 6.1 Vagueness of Existing Treaty Definitions

There are many examples of geographers, hydrographers and non-international lawyers defining islands (and other technical aspects of the sea<sup>90</sup>) as necessarily having some permanence of appearance above high water. Some such definitions have a tidal datum supplied for the most critical hallmark of an island. This aspect is particularly evident in US definitions where US practice generally follows the “*mean high-tide*” criterion. But, as will be seen, many other States adopt different criteria;<sup>91</sup> and many legal commentators have pointed out that Article 10 of the TSC (and now Article 121(1) of the LOSC<sup>92</sup>) - is vague as to the meaning of “*above water at high-tide*”. There is an additional problem in polar areas that can arise on this issue; namely, does the fact that a formation is covered by pack-ice (i.e. simply frozen sea-water) for most of the year (often for at least nine months), in itself disqualify insularity?<sup>93</sup> Despite such vagueness, it has been argued that Article 10 of the TSC now represents customary international law,<sup>94</sup> or parts at least of the definition have this status.<sup>95</sup>

Such vagueness equally affects the definition of low-tide elevations, which under Article 11 of the TSC - now Article 13 of the LOSC - are to be “*above water at low-tide but submerged at high-tide*”. Here there is no tidal datum supplied in the case of **either** eventuality.<sup>96</sup> Furthermore, it may be noted parenthetically that in Article 7(4) of the LOSC where low-tide elevations may qualify, as seen, as basepoints for straight baselines where artificial constructions have been built on them, the requisite artificial installations on them “*must be permanently above sea level*” (emphasis added) - a change in super-surface terminology as well as evidencing again no tidal datum except that which can be implied from the word “*permanently*”.<sup>97</sup>

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<sup>90</sup> See e.g. Alexander, 1987: 287. Shalowitz, 1964: 227, defines an island (at least for US mapping and charting purposes) as a “*body of land extending above and completely surrounded by water at the mean high water stage*”. See also Hodgson, 1973: 150 (“*above mean high water*”); Cf. Boggs, 1951: 240 - “*island*” is “*land which is not wholly submerged at high-tide*”

<sup>91</sup> Cf the French practice *infra* footnote 156.

<sup>92</sup> See e.g. Dipla, 1984: 32; Oppenheim, *International Law*. 9th ed. Jennings, R. and Watts, A., London: Longmans:104/5 (“*It is nowhere said what is meant by high-tide*”).

<sup>93</sup> This very point arose in *US v Alaska supra*.

<sup>94</sup> See, e.g., the Greek argument in the *Aegean Sea Continental Shelf Case* (VR, C.R. 76/1:34). *Contra* Pazarci, 1982: 52-57.

<sup>95</sup> E.g., “*naturally-formed*”: Dipla, 1984: 28.

<sup>96</sup> See Alexander, 1987: 273; and Aurrocochea and Pethick, 1986: 1, 29, 38 (there is no definition in the TSC of the “*lower tidal limit*”).

<sup>97</sup> See *supra* footnote 38 and accompanying text.

## 6.2 Past State Practice

### 6.2.1 The position prior to UNCLOS I

There is evidence as far back as 1804 - *Soult v. Africaine*<sup>98</sup> - in US case law that a submerged shoal could not be considered an 'island' so as to generate a maritime zone. This was reinforced by the later US case of *US v. Henning*<sup>99</sup> in 1925 which effectively ruled out a permanently-submerged shallow reef on which an above-water beacon had been erected as being an island. Not surprisingly, the *Soult* case has been described as initiating a trend "towards the exclusion of features other than permanently dry features when calculating the territorial sea".<sup>100</sup> Likewise in the famous *Anna* case in the last century which involved an international legal dimension (the law of prize), the mention of an element of "permanence" arises in respect of insular definition. For as the captors of the ship there argued in the case of a capture within 3 miles of a Mississippi 'mudlump' (a form of mud elevation - but more than 3 miles from the mainland coast) such "outlines of territory" should "form a visible part" of the State to which they belong.<sup>101</sup>

It seems clear, then, from an early stage that state practice ruled out underwater features, or features artificially raised above high-tide level by installations thereon, as having any insular qualities. And this was generally reflected in State practice prior to UNCLOS I as is today.<sup>102</sup>

Not so clear in the past<sup>103</sup> was whether natural formations which appear above surface at low-tide only - what are now known in legal parlance as low-tide elevations - were equivalent to 'islands'. British practice showed some equivocation here: on the one hand in the Australian context it was stated by the Law Officers in the last century (1875), that "land not submerged at ordinary high-tides, however small in extent, is an island" and that "reefs detached from any islands and dry at low-water only are not islands".<sup>104</sup> It may be noted in passing that at this early date no tidal datum is given and the epithet "ordinary" begs many questions. Later British opinions concerning reefs in the West Indies, however - e.g., the Bahamas Banks - tend to indicate that low-tide formations in the proximity of land **did** have insular qualities.<sup>105</sup> Such latter authority can, however, be explained away on the grounds

98 (1804) 22 Fed.Cas.:805.

99 (1925) 7 F. 2nd:488.

100 O'Connell and Shearer, 1982: 1: 170.

101 165 E.R.: 809, 811.

102 See e.g. the isolated viewpoint of Rumania in 1929 at the Hague Codification Conference, an "island" was a land surface "covered or not by water... over which it is impossible to navigate": Rosenne (ed), 1930: 271. Cf the present Chinese claim over Macclesfield Bank supra footnote 84.

103 It is rare today to find instances in maritime legislation where a State has defined an "island" in blanket (rather than qualified) terms which also comprises of a low-tide elevation. Egypt **has** been one such State, "any islet, reef rock, bar or permanent artificial structure not submerged at lowest tide": see El Hakim, 1979: 8. This practice is not reflected in other Arabic legislation: see Jayewardene, 1990:73. The Egyptian straight baselines were changed in 1990: see *UN Law of the Sea Bulletin*, No.16: 5.

104 Opinions, No.4 and 5: McNair, P., *Legal Opinions*, Vol. 1: 369.

105 See Symmons, 1979: 42.

that then it was believed such formations (coral ridges etc) were normally above water,<sup>106</sup> or that they were not then seen as “*autonomous entities*” in their own right;<sup>107</sup> and that they precluded the idea today that such **intra-territorial sea** low-tide elevations may constitute baselines even though not being ‘islands’.

Significantly, the 1875 Law Officers’ opinion for Australia has been viewed as anticipating the 1958 regime that “*land not submerged at ordinary high-tide...is an island*”.<sup>108</sup> Added to this, legal conferences in the period prior to the 1930 Hague Codification Conference began to draw a clear division between islands proper and other formations such as low-tide elevations,<sup>109</sup> though confusion over terminology still persisted into the 1930s, such as that an ‘island’ could include “*land exposed only at some stage of the tide*”; and such views were also evident in some replies to the Questionnaire of 1929 prior to the 1930 Hague Codification Conference.<sup>110</sup>

The viewpoint of the UK and other common law States (excluding the US) at the 1930 Conference required ‘islands’ to be permanently above sea-level.<sup>111</sup> This was reinforced by later definitions from the same sources at the 1930 Conference stressing that islands should “*in normal circumstances*” be “*permanently above water*”. The different replies at the 1930 Conference can be explained by the looseness of terminology then apparent.<sup>112</sup> But in the final “*observations*”, it is clearly stated that an ‘island’ can have its own territorial sea only “*if above water at high-tide*”; and at its conclusion, this influential Conference defined an ‘island’ as a formation **permanently** above sea level - “*an area of land, surrounded by water, which is permanently above high-water mark*” (emphasis added).<sup>113</sup>

## 6.2.2 UNCLOS I

At UNCLOS I in the late ’50s, the above-mentioned definition was initially reproduced by the International Law Commission (ILC).<sup>114</sup> As a result of suggested amendments (by the British ILC delegate, Lauterpacht), this definition was then amended to take in the phrase “*in normal circumstances*” before “*permanently above sea level*”, so that “*exceptional cases could be covered*”,<sup>115</sup> though some delegates thought this unnecessary as they viewed

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106 See the British explanation in the *Anglo-Norwegian Fisheries Case, Pleadings*: 531.

107 O’Connell and Shearer, 1982: 189.

108 O’Connell, D.P., *International Law in Australia*: 271.

109 See e.g. the 1894 report of the Institut de Droit International: *Annuaire Abridgment*, Vol. III: 460.

110 E.g. that of the USA: “*It would seem that any naturally-formed part of the earth’s surface, projecting above the level of the sea at low-tide... should be considered an island*”, C.74M.39 (1929) V:53.

111 Indeed, as early as 1923, the view from the British Empire was that islands included “*all portions of territory permanently above high water in normal circumstances*” - a definition which would not be out of place today. See the Report of the Inter-departmental Committee on the Limits of Territorial waters at the 1926 Imperial Conference.

112 As a US delegate at the 1930 Hague Conference admitted, “*we have talked of...islands without at times being sure of the definition of our terms*” see Rosenne, 1930, Vol. IV: 1349. See also McDougal and Burke 1962: 391, 392.

113 *Acts of the Hague Conference*, 1930, Vol.. III: 219.

114 See Bowett, 1979: 6.

115 *ILC Yearbook*, 1954: Vol.1: 92.

“normal circumstances” as being implied in the original draft.<sup>116</sup> However this added qualification to the international above-water requirement did not survive the 1958 Geneva conference, where the US successfully advocated not just the deletion of this phrase, but also the word “permanently” because:

*“The requirements of the ILC definition of an island that it should be above high water mark ‘in normal circumstances’ and ‘permanently’ are conflicting, and since there is no established State practice regarding the effect of subnormal or abnormal or seasonal tidal action on the status of islands, these terms should be omitted”.*<sup>117</sup>

As there was so little discussion on this vital aspect of insular definition - both at the Conference and before - this US commentary forms a vital part of the “*travaux préparatoires*” to the TSC and indicates that the US amendment was caused essentially for **drafting** purposes and only secondarily because of a perceived lack of international agreement on tidal data affecting the appropriate high water criterion. For example, the ILC’s commentary in 1954 merely stated that the “*permanence*” of the above-water aspect was subject only to “*abnormal circumstances*”.<sup>118</sup>

In the light of the above, it is submitted that, from an interpretative point of view, the dropping of the word “*permanently*” from the finalised TSC text does not mean that this epithet is not still **implied** in the resultant definition in 1958 given above, which taken literally (“*is above water at high-tide*” (emphasis added)) arguably implies permanence of above-high-tide status from the very word “*is*”, and necessarily suggests continuing existence above the sea surface.<sup>119</sup>

Likewise it is arguable that the omission of the “*normal circumstances*” qualification does not rule this factor out of insular definition. So that a formation still retains its true insular characteristics (albeit implicitly) when in exceptional conditions - as mentioned above - the water level is significantly (but temporarily) raised; or equally importantly - and this is an aspect often neglected - where a formation itself is **temporarily reduced in height** by such natural and exceptional forces.<sup>120</sup>

116 See Symmons, 1979: 42.

117 UN Doc.A/Conf.13/C.1/L. 116: *Official Records*, Vol. III, p. 242.

118 See, e.g., Symmons, 1979: 42-5.

119 See the US *Post Trial Memorandum* (17, 27) in *US v. Alaska* (*supra*).

120 This was an important factor in respect of the disputed ‘*Dinkum Sands*’ formation in *US v. Alaska* (*supra* foot note 8). The question arises whether international law may, in this regard, impose any duty on States to monitor, on a *continuous* basis, such suspect formations. At least one geographer has suggested that there is no such legal duty to “*engage in periodical surveys*”: see Prescott, 1981: 488, 493. He points out (*ibid*: 490) that many rocks and cays on the Australian Great Barrier Reef can be “*expected to be temporary features*”, being formed by accumulation of coral debris which may be “*destroyed by exceptional storm surges or unusually high-tides*”, as e.g. rocks being rolled into channels by strong waves. And he concludes that “[u]nfortunately, there is no way of predicting which features might be considered to be temporary”; and (493) that “*new surveys will have to be made at intervals to take account of features which have been freshly created or recently destroyed*” (emphasis added).

### 6.2.3 UNCLOS III

Significantly at UNCLOS III there was little evidence of a move to diminish the clear pre-existing distinction between islands and low-tide elevations - for example, to downgrade **insignificant** above-high-tide features into the same legal category as low-tide elevations.<sup>121</sup> And it may be argued that the retention of the identical definition from the TSC of 'island' (and indeed low-tide elevation) in the LOSC, reinforces the **pre-existing** essential criteria of an island.<sup>122</sup> Indeed it has been argued rightly by an eminent maritime geographer that the "long tradition" of State practice over islands was "accepted at the 1930 Conference" and "enshrined in both the 1958 and 1982 Conventions".<sup>123</sup>

### 6.2.4 Analogies with the tidal datum rule as to baselines

A similar lack of definition applies to the meaning of the "normal baseline" (see Article 5 of the LOSC) which is the "low-water line along the coast as marked on large-scale charts officially recognised by the coastal state". Note here that no tidal datum is given; and in practice many States use different criteria for establishing such a "low-water line"; for example the US uses **mean low-water**; whereas the UK (in the past at least) has used **mean low-water springs**.<sup>124</sup> And the latter criterion was also suggested at the 1930 Hague Codification Conference.<sup>125</sup>

Several commentators point out the manifold possibilities here as to tidal datum<sup>126</sup> - for example, lowest astronomical tide,<sup>127</sup> mean low-water spring tide, mean low-water, neap tide, mean sea level, mean lower low-water.<sup>128</sup> An added complication in hydrographic terms is that even in one and the same State, different tidal data has been used for **different coastlines**, as in the US, where, for example, the qualifying height for a "bare rock" on one of its seaboard, the Atlantic, is different from that on another, the Pacific.

With the substitution of **high-tide criteria** any of these tests could be theoretically applied to insular definition, so in hydrographic terms, it might be possible to apply such baseline tidal data **by analogy** to the meaning of "above water" at "high-tide" in Article 10 of the TSC on the meaning of island. Thus the same problem of multiple choice arises here; and in any event, some commentators have maintained that such analogies cannot be made, as it cannot

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121 See the Draft African Articles on "Regime of Islands": UN Doc A CONF62/C2/L55.

122 See e.g. Dipla, 1984: 29.

123 Prescott, 1985: 9.

124 See the Territorial Waters Order in Council, 1964, Article 5(1).

125 See Symmons, 1979: 45.

126 See e.g. O, Connell, and Shearer, 1982: 173.

127 Cf e.g. Australia's updated legislation (*infra* footnote 144) and Algeria's legislation "shore of the sea which is covered by water by the highest tide of the year in normal atmospheric conditions" : Algerian Ordinance 96-80 of 23/10/1976.

128 See Dipla, 1984: 33, who cites 6 possible levels according to Percy, 1959: Vol.49: 6. See also Read, 1957: 12-13; and Aurocoechea and Pethick, 1986: 31, 34. For another variation in practice, see that of Belgium (*infra* footnote 192 and accompanying text) ("lower low-water spring tide").

be assumed that “*the same tidal datum is to be used [for determining insularity] as in the case of measurement from the coast*”.<sup>129</sup> On the other hand, as the present writer opined in the *US v Alaska* case,<sup>130</sup> those States which specify a criterion for the low-tide mark baseline generally also use the **same type of (high-tide) tidal datum to determine insular status**.<sup>131</sup>

### 6.2.5 The current state of ambiguity on the legal criterion for above-surface status

Given the lack of clarity on this vital definitional issue, what is the true **international** rule? Or must one take the pessimistic view that there is, effectively, no international rule because there is no international agreement regarding the appropriate water level datum.<sup>132</sup> Various possibilities have been suggested as reflected in current state practice. These will now be looked at.

Certainly, as has been seen, the early definition of islands in State practice, gives little guidance in the matter.<sup>133</sup> Curiously also, even in US domestic caselaw, there is little precedent on insular definition, though US Federal caselaw has been influential on more general baseline issues,<sup>134</sup> and certainly until *US v Alaska*, no case had reflected **international law** as such on the definition of islands,<sup>135</sup> though US domestic cases do reflect similar problems relating to insular formations in rivers.<sup>136</sup>

<sup>129</sup> O'Connell, and Shearer, 1982: 184.

<sup>130</sup> See *Report supra* footnote 8: 39.

<sup>131</sup> See e.g. the *New Zealand Territorial Sea and Exclusive Economic Zone Act*, 1977, which uses “*mean high-water spring tides*” in defining both islands and low-tide elevations; and the new practice of Australia, *infra* footnote 145.

<sup>132</sup> This was the contention of Alaska in *US v Alaska* in its *Reply Brief*: 8.

<sup>133</sup> See the above-mentioned 1895 Law Officers' Opinion (“*not submerged at ordinary high-tides*”) which begs the questions as to what “*ordinary*” means; and e.g. (in an 1893 Russian decree), mention of various formations “*showing above the sea*” (at what state of tide?): Fauchille, 1925: 200. Likewise in some early Scandinavian practice mention was made of islets or rocks “*not constantly submerged*” (early examples of low-tide elevations?).

<sup>134</sup> Here *Borax Consolidated Ltd v Los Angeles* (1935) US 10, 22, is generally seen as laying down a “*mean high-water*” test (“*the mean of all the high-tides*”) though it is not clear that this represents US practice in an international setting.

For example, in the leading State/Federal case of *US v California* (1964) 381 US: 139, 176, the Federal side argued that the meaning of the ordinary low-water mark was the average of all low-tides. As seen, tidal datum for baseline purposes may differ from that applicable to definition of islands in one and the same State.

<sup>136</sup> Such US cases relating to alleged islands in **rivers** (where flooding conditions create special problems as to permanence as compared with maritime “*islands*”) do emphasise, albeit solely for **municipal law purposes**, the necessity for a degree of **permanence**. Such cases as *McBride v. Steinweden* (83 Pac. 822, 824 [Kann. 1906]) and *Hammonds v. Ingram Industries Inc* (716 F. 2<sup>nd</sup> 365[1983]) were cited **for international legal purposes** in *US v. Alaska: contra* the Alaska *Reply Brief*: 31 (“*From the foregoing it is clear that the US has never taken the position that an island must manifest either a permanent location or a permanent elevation above water datum to qualify as an island for either international or domestic purposes*”)(*emphasis added*). Cf the problem of shifting “*islands*” in a river or estuary in determining an **international** boundary as in the Orange River in respect of the South Africa-Namibia boundary, where e.g., sandbanks which are “*permanent structures*” above the water line are inundated only during **very high river floods**, but where such “*extraordinary*” floods “*display no fixed pattern*”; see Erasmus and Hannam, 1987-1988: 49, 52-53, 55. They point out that “*sandbars*” at the **mouth** of a river are of a “*particular nature*” because of their **maritime** provenance.

The lack of clarity<sup>137</sup> in international law on insular definition has already led to judicial complaint in the domestic sphere. For example, in a UK case which touched on the problem, *Post Office v Estuary Radio* (albeit in the context of low-tide elevation definition), it was judicially stated:

*“Upon these definitions [i.e. both municipal and by treaty - as in the TSC] interesting and difficult questions arise as to whether a ‘low-tide elevation’ must be above water at all low-tides, at mean low-water spring tides, at admiralty datum, at the lowest tides experienced from time to time (if so, how often?) in the course of a year, or at lowest astronomical tides. Someday some court, municipal or international, may have to decide this”.*<sup>138</sup>

### 6.2.6 Recent delimitation practice

In recent times, the diversity of view on tidal requirements for insular definition has even been **explicitly** acknowledged in maritime delimitation treaties and a compromise sought. This, for example, has happened in the recent Franco-Belgian delimitation agreements in 1990/91 wherein Article 2 (dealing with the respective territorial seas) makes reference to taking *“into account low-tide elevations close to the Belgian and French coasts”* in the form of three sandbanks exposed at low-water. But as Article 2 goes on to say: *“The application by Belgium and France of different methods for calculating heights had led to two distinct dividing lines”* (emphasis added). For as has been commented:

*“Belgium used as its chart datum the mean low-water spring tide, calculated over the internationally recognised period of 18 ⅔ years, while the French used the lowest astronomical tide (which is lower than the Belgium mean by about 30 centimetres). This difference in datums led to a further difference in that Belgium charts did not show Banc Breedt as [a low-tide elevation], whereas French (and British) charts did. In other words, Banc Breedt dries only at exceptionally low-tides. It does not satisfy the tests for a low-tide elevation according to widely used chart datum, but just qualifies according to another. (Banc Breedt is about 10 centimetres above the French datum, but always below that of Belgium). Applying the two different datums, two dividing lines, both based on the equidistance method, were thus produced...”*<sup>139</sup> (emphasis added).

It seems clear from this recent precedent involving definition of insular formations that even in **neighbouring** continental European States, practice can vary as to their perceived definition in international law and so add to maritime jurisdiction problems.

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<sup>137</sup> Not all commentators, though, seem to have taken this view; see e.g. Herman *supra* footnote 26:188 *“this terminology [i.e. the definition of islands in Article 10 of the TSC] is reasonably clear and simple [sic], and, for the most part, ... should offer few practical difficulties in application”*.

<sup>138</sup> Per Diplock, L. J. (1968) *Post Office v. Estuary Radio*, 2 Q.B.: 740, 761. Cf Phillips, 1971: 129, 134, *“a low-tide elevation in terms of the Geneva Convention is a land feature that is bare at any stage of the tide between the low-water datum and the plane of mean highwater”*[emphasis added]).

<sup>139</sup> Anderson, 1992: 414, 416. In the end, it was agreed (see Article 2) that *“the area lying between the two dividing lines should be divided into two equal parts, thus taking some account of each side's position over the datum”* (*ibid*: 416).

## 7. The Optimal Tidal Level Choices for Insular Definition

### 7.1 Two Basic Tests

As will be seen, in the one opportunity in recent years for objective clarification of the appropriate legal rule - in an international arbitral context, in the *Franco-British Western Approaches* case this definitional issue was skilfully evaded (in the case of the status of the Eddystone rocks<sup>140</sup>). So that as O'Connell states, the "*general issue of tidal datum*" still "*remains unsettled*".<sup>141</sup> Furthermore, the legislation of many States fails to give a definition of an 'island',<sup>142</sup> or it may just repeat the substance of the Article 10 definition (in so many words or by direct reference thereto),<sup>143</sup> or it may spell out a criterion of its own (see below). So here there is a role for the international jurist to analyse the various choices and to suggest the appropriate rule.<sup>144</sup> For, despite the lack of uniformity in State practice, it may be argued that there are two basic types of test for determining insularity in international law - one seemingly maximalist (apparent **absolute** permanence above water) and the other more moderate based on a **mean** criterion - usually either on a **mean** tide or a **mean spring tide** test. It follows from this that if a State chooses suddenly to change its tidal criterion from, for example, a mean to an astronomical tidal test (as has happened in recent years<sup>145</sup>), this may have important repercussions on its maritime limits by possibly throwing up **further qualifying insular formations** as far as low-tide elevations are concerned, whilst at the same time, if the same type of test is consistently applied to the **high-tide** aspect, possibly eliminating some erstwhile islands.

<sup>140</sup> *Decision of the Court of Arbitration*, 30 June, 1977.

<sup>141</sup> O'Connell, and Shearer, 1982: 184.

<sup>142</sup> E.g. that in the USA and Canada.

<sup>143</sup> See, e.g., Democratic Yemen, Ireland, Micronesia, Japan. For early comment on the varying practice on insular definition, see Percy, 1957: 1, 8.

<sup>144</sup> See, e.g., Article 38(1)(d) of the Statute of the International Court of Justice ("*teachings of the most highly qualified publicists*")

<sup>145</sup> See e.g. Prescott, 1985: 50 "*It is quite possible that reliance[by Australia] on the **lowest astronomical tide** will expose a number of low-tide elevations, within three miles of the coast, which were **formerly covered at mean low-water***" [emphasis added]). In similar fashion an extension of territorial seas to **12** miles throughout the world has led to more **low-tide** elevations being qualified to constitute baselines, and this has caused problems for the UK in the context of affecting past EEC foreign fishery in such instances: see Symmons, 1994: 21.

## 7.2 An Island Must Have Absolute Permanence Above High-Tide, or at least Satisfy the Highest Astronomical Tide Criterion

### 7.2.1 Academic and other evidence favouring this test

Several academic commentators have suggested this extreme position. For example, writing after the 1958 Conference, one legal commentator effectively required a true island (however small) to be “*permanently (even if only just) visible at all states of the tide*”<sup>146</sup> (emphasis added). Such a visibility requirement (for navigational and bearing-fixing purposes) would seem to be particularly important in relation to insular formations used in **straight** baseline systems.<sup>147</sup> This viewpoint has also been very evident in the leading French legal commentators.<sup>148</sup> The editors of the new volume of the most authoritative treatises on international law - Oppenheim - also state that it is “*arguable that [high-tide] should mean the highest astronomical tide, i.e. the highest tide which can be predicted under average meteorological conditions and under any combination of meteorological conditions*” and which has a twice-a-year appearance.<sup>149</sup>

Some analogous interpretative guidance can be gleaned from the other side to the insular coin, i.e. the definition in the TSC (now repeated in the LOSC) of a **low-tide elevation**. Here, where the formation is legally required to be “*above water at low-tide*” but to be “*submerged at high-tide*”, there seemingly was **never** any attempt, as in the case of ‘islands’, to add the epithet “*permanently*” to **either** of these tidal requirements. Nonetheless, the wording can be interpreted to imply a regular pattern of low-tide surfacing, and likewise, though less importantly, that they are submerged at least one half of every 24 hours.<sup>150</sup> Indeed, in a British domestic decision involving such alleged elevations in the Thames Estuary - *PO v Estuary Radio* (1968) - the defendants argued (it is submitted correctly) on appeal that the meaning of “*low-tide elevations*” in the relevant statutory instrument

<sup>146</sup> Fitzmaurice, 1959: 73, 85.

<sup>147</sup> See Jayewardene, 1990: 71.

<sup>148</sup> See Gidel, 1934, an elevation which exists “*d'une maniere permanente audessus de la maree haute*” (‘of a permanent appearance above high-tide’); and that “*emersion permanente*” (‘permanent coverage’) “*la distinction essentielle*” (‘the distinguishing feature’) of an island; Fauchille, 1925, Tomes I [author’s translation]. In at least one river boundary agreement (of 1938 - that concerning Tanzania-Mozambique), the insular formations to be taken into account were carefully defined in terms of “highest high-tide”: see Dipla, 1985: 589, 616, who comments that this may reflect a high degree of permanence as in the Article 10 TSC definition.

<sup>149</sup> Op.cit.: 603, footnote 2. Even this definition allows some latitude for unforeseeable (and exceptional conditions). As the editors go on to say “*.... it may be presumed not to mean the highest possible tide allowing for the effect of storm surges or other unpredictable phenomena*”. See further footnote 166 *infra*.

<sup>150</sup> See the comment of the British delegate at UNCLOS I: *Official Records*, Vol.II, p.186. Exceptionally, States have specified a time-scale for low-tide elevation surfacing. See, e.g., the Finnish legislation “*above sea level more than one half day per year on the average, at low-water level during the 10 year period preceding when this law takes effect*”. The writer argued in the *US v. Alaska* case (*supra*) that the *submergence* requirement was less vital than the *emergence* requirement. Indeed, were this not so, it would lead to the necessity for international law to create a *third* hybridised type of insular formation. But cf the recent Belize definition of a low-tide elevation: (an “*area of drying land*” [no tidal datum] which is “*below water at mean high-water spring tides*” [tidal datum]). For previous reference to the Belize legislation, see *supra* footnote 71.

(purporting to apply the TSC regime into UK law) implied that the above-surface requirement was for “*land which comes up regularly in the cycle of tides*”.<sup>151</sup>

At UNCLOS I a lengthy US Memorandum made the point that the lack of tidal datum in Article 11 of the TSC, and in the ILC commentary, left “*unresolved questions*”, like whether elevations which appear above sea level at “*spring low-tide*” but “*not neap low-tide*” qualify as low-tide elevations.<sup>152</sup>

The early ILC travaux préparatoires which defined an island in terms of being “*permanently above high-water mark*”, after the “*Lauterpacht*” amendment, also, as seen, brought in the qualifying phrase “*in normal circumstances*”, so clearly making some allowance for exceptional circumstances; but strangely no further information on what this phrase might mean is given. Significantly, though, the commentary to the US amendment (which finally got this phrase deleted from the definition of an island), did point out, as seen, that because “*there is no established State practice regarding the effect of subnormal or abnormal seasonal tidal action*”, the apparently conflicting phrases (“*in normal circumstances*” and “*permanently*”) should be omitted.<sup>153</sup> Note that the US comment does not relate **directly** to “*normality*” of tidal datum, merely to “*abnormality*”. In the recent *US v Alaska* litigation, Alaska argued that “*permanency related to elevation*” (i.e. whether a feature must be “*permanently dry*” above the “**higher high-water mark**”), although included in the draft convention at the 1930 Hague Conference, “*never attained the status of traditional and customary law*” because in the 1950s (at UNCLOS I), “*this more limited notion of permanency was deleted from the Convention’s definition of an island*”.<sup>154</sup>

The alleged lack of “*established State practice*” on insular tidal datum<sup>155</sup> applies, **ex hypothesi, equally** to the question of normal tidal conditions. This factor perhaps explains why several States take a **maximalist** approach to the high-tide datum requirement in insular definition (and likewise to the definition baselines generally), as it has an aura of practicality attached to it.

151 See *supra* footnote 138, at p. 747. But cf Gidel: 701, who indicates that such an elevation need only emerge “*aux plus basses mers de niveau*” (‘at the lowest low-tide’) rather than “*a chaque basse mer*” (‘at each low-tide’); and the strange view of Dipla, 1984: 45, apparently derived from the literal phraseology, that “*Il suffit donc qu’elles découvrent a la marée la plus basse, pourvu qu’elles restent découvertes meme si ce n’est que tres peu*” (‘It suffices that they are exposed at the lowest tide, as long as part of them remains uncovered, even if it’s very little’); but then she later adds the qualifying phrase “*au moins de temps en temps*” (‘at least from time to time’)! (*ibid*: 49) [emphasis added, and author’s translation]).

152 US Memorandum, 1957: 23, 24. Cf the UK view regarding Bell Rock which is exposed at *neap* low tides, and so not considered an island to generate territorial waters. See Fulton, 1911: 642.

153 *Official Records*, Vol. III, p. 242.

154 *Alaska Reply Brief*: 26.

155 See O’Connell and Shearer, 1982: 85 (“*the general issue of tidal datum*” relating to islands is “*unsettled*”).

### 7.2.2 The Franco-British Arbitration Case

In the only truly international litigation<sup>156</sup> which has involved the meaning of ‘island’ in recent years, the *Franco-British Arbitration Case*, the matter of insular tidal datum was aired in an arbitral setting, but (as mentioned above) not expressly pronounced upon. There the UK had argued that “*mean high-water springs*” determined insularity, whilst at the same time conceding that interpretations other than that of “*mean springs*” were possible to determine the appropriate high-tide level. But the UK alleged that its criterion was the “*only precise one*”.<sup>157</sup> The French contention, on the other hand, was that an island was defined with reference to the level of the **highest annual tide mark**, i.e. the equinoctial tide.<sup>158</sup>

The criticality of the tidal datum in the *Western Approaches Case* was evidenced by the fact that if the French argument prevailed, the highest **natural** part<sup>159</sup> of the Eddystone Rocks was only at most a marginal island, i.e. 0.2 feet above the highest astronomical tide; whereas on the British “*mean high springs*” criterion, it was about 2 feet above high-water.<sup>160</sup> Thus in the French contention the rocks were no more than “*low-tide elevations*”; and there was no difference in customary law between **types of tide** in distinguishing between an island and a low-tide elevation. Unfortunately the Arbitration Court found it unnecessary to determine which view accorded with international law, as it found that France had **recognised** the rock as having a baseline for territorial sea purposes.<sup>161</sup> As shown above, it is always possible for a state to recognise (e.g. by treaty) an otherwise non-conforming entity as an island or, by implication, be found to have to have done so by the doctrine of estoppel. Thus all the Court would say was that it need not determine “*the legal status of the Eddystone Rocks as an island*”.<sup>162</sup>

### 7.3 Mean High-Water Spring Tide, or Mean High-Tide

In the above-mentioned *Western Approaches Case*, the UK maintained that “*mean high-water spring tides*” was the “*practice of many other States*”<sup>163</sup> for insular definition purposes. The *Decision* itself does not give any State survey on this, but certainly it appears

<sup>156</sup> Note that a maritime dispute in a federal context such as *US v Alaska (supra)* is almost equivalent to a true *inter-State* dispute insofar as international law governs the legal issues. The latter has been held to be so in the US context in respect of State/Federal claims to seabed under the *Submerged Lands Act* since *US v. California* (1965) 381 US:139, 165.

<sup>157</sup> Paragraph 127.

<sup>158</sup> *Ibid*, at paragraphs 125, 128. It may be noted in the *Aegean Continental Shelf Case*, Greece argued in similar fashion that an island under Article 10 of the TSC had to be “*dry at all tides*”: (VR, CR 76/1:36) (emphasis added).

<sup>159</sup> In the last century some of the natural rock had been cut off to make foundations for lighthouses there. This also meant that there were difficulties in determining where the natural rock ceased and the artificial construction began.

<sup>160</sup> Paragraph 124.

<sup>161</sup> Paragraph 139.

<sup>162</sup> Emphasis added. Cf Fusillo, 1978: 47, 51 footnote 9.

<sup>163</sup> *Ibid* at paragraph 127.

to be a significant practice amongst English-speaking nations with a common law heritage to adopt this norm.<sup>164</sup>

The US, on the other hand, uses the mean high-water line test, i.e. an “*average height of all the high-water*” at a particular location over a considerable period of time, preferably of 18/19 years.<sup>165</sup> At least one other State directly uses the “*mean high-water*” criterion for insular definition - Kuwait.<sup>166</sup>

#### 7.4 A Suggested Solution

As has been seen from the above, the silence on the issue of tidal datum for insular definition in the relevant international conventions, as well as the diversity of State practice, make it difficult to detect any definite conventional or customary rule on this vital issue. However, it is at least clear that an island must have a sufficient degree of “*permanence*” above high-water in just the same way that a low-tide elevation must have the same status at low-tide. On the other hand, it appears, as seen, that even those States which require apparent absolute permanence of a formation above the most stringent tidal datum - highest astronomical tide - might make allowance for exceptional tidal or atmospheric or barometric conditions<sup>167</sup> - most obviously hurricane, cyclone or seismic conditions - e.g., the tidal wave of Krakatoan proportions - which may temporarily cause an island to fall below high-water. It is implicit, however, in the French argument in the *Western Approaches Case* (above) that an equinoctial tidal level **alone** could not be regarded as “*exceptional*”.

Likewise, those States using the least stringent tidal criterion such as “*mean*” high-water implicitly and necessarily from the very nature of the test, make allowance for similar

<sup>164</sup> See, e.g., the legislation of Micronesia, Ireland, New Zealand Cook Islands, Papua New Guinea, Fiji, and, most recently Belize (UN *Law of the Sea Bulletin*, No. 21, 3) where “*island*” is defined as being “*above water at mean high-water spring tides*”. Australian practice seems inconsistent: cf its 1970 legislation with its 1983 Proclamation under section 7 of the *Seas and Submerged Lands Act*, 1973 (fixing new Australian baselines: Commonwealth Gazette, No. 52, 4/2/1983) where in clause 1, the term “*low-tide elevation*” is to have “*the same meaning as in the [1958] Convention, but, 'low water' (and indeed, 'low-tide') is to mean 'lowest astronomical tide'*”. One geographer has criticised this datum (i.e., “*the lowest [or highest] level to which tides fall [or rise] in a full cycle of 18.6 years under normal atmospheric conditions*”) as a “*difficult datum to find*” and one, for example, that most Australian charts do not use (Prescott, 1988b: 276). And see recently Namibia's practice: UN *Law of the Sea Bulletin*, No. 16, Dec 1990: 18, (low-water line is “*line of lowest astronomical tide*”).

<sup>165</sup> See Shalowitz, 1964: 173-4 (Vol.2). The US Coast Survey uses mean high-water as one of its principal tidal datums, but also recognises “*mean higher high-water*”. Note, however, that the leading **domestic** US case - the **Borax Case** *supra* footnote 119 - did not concern application of this test to an **island** in international law.

<sup>166</sup> By a decree of December 1967: “*above water at mean high-tides*”.

<sup>167</sup> For it seems clear that such a datum presupposes *normal atmospheric conditions* (as Prescott states above *loc. cit.*, footnote 163) and so does not take in the “*most extreme levels which may be reached*” as e.g., through storm surges: see O'Connell and Shearer, 1982: 173. For a useful analysis see Wemelsfelder, 1971: 115, 122, who lists such regional and local influences including winds, barometric pressure, storm surges, tectonic movements, sea bed slopes and coastal works. After a cyclone in the Bay of Bengal in 1985, a tidal bore some 15 feet high swamped a former “*island*” which was five feet above high-tide (*The Times*, 29/5/1985). Cyclones can similarly affect small islands in the Pacific; for example, in Tokelau, in 1991, waves swept over an atoll normally a few feet above water; furthermore, the Pacific islands may be the first to disappear if the effects of global warming become severe: see *The Times*, 31/7/1991.

exceptional conditions which lead to an abnormal tide in this evening-out process or even to abnormal and temporary erosion **of the formation itself** which causes it to drop (exceptionally) below mean high-tide. This test, however, has a built-in element of impracticality in that a careful 18-19 year cycle statistical survey is (ideally) required and many States may not have this information to hand when a dispute arises. Added problems, of course, arise where it is the variation in **land** height, rather than **tidal** height, that is in question.<sup>168</sup>

It may be argued, therefore, that the two most extreme tests to be found in State practice (**equinoctial** on the one hand, **mean** on the other) may not be so much different in substance as in form; and that consequently, an **intermediate** test, such as mean high spring tide level has much to commend it.

It is clearly impermissible for a State to claim insular status in international law for a formation which is intermittently covered at the appropriate tide (high or low) **by dint of foreseeable and regular conditions, including seasonal ones**;<sup>169</sup> and in this regard it may not be sufficient to monitor just the tidal levels, as in some situations the **horizontal plane** of the so-called island (or low-tide elevation) may also predictably vary, and so seasonally go up (as, e.g., through "*ice push*" in the Arctic<sup>170</sup>) or **down** (just as **tidal** norms may go up and down). It was for such reasons that the phrase "*in normal circumstances*" entered the insular definition as early as the 1930 Hague Codification Conference.<sup>171</sup>

Likewise, where the components of the **alleged above-water aspect of a formation** have obviously temporary (or dubiously terrestrial) surface features - e.g., random boulders or even tall natural vegetation such as a coconut palm<sup>172</sup> - or the formation's height above high-tide is only **boosted in its above-surface appearance by non-terrestrial components lower down** in its structure, e.g., frozen sea ice in polar areas,<sup>173</sup> the formation is not an island in international legal terms.

168 This was part of the problem in determining the insular status of "*Dinkum Sands*" in *US v. Alaska* (*supra*). In that case the joint Alaskan-Federal survey of 'Dinkum Sands' had to telescope the relevant tidal data into a short period and so to incorporate an "*error band*" which Alaska subsequently disputed.

169 See Symmons, *Report*, 1985 (*supra* footnote 8): 43; also Alaska's *Opening Brief* in *US v. Alaska*, where it was admitted that because sea levels in the Arctic were so much higher in the summer season (because of thermal expansion and currents), the disputed formation of 'Dinkum Sands' could be completely submerged in this season, yet still be above mean high-water. If this assertion is correct, it manifests possible defects in a liberal "*mean*" high-tide test.

170 See, e.g., Alaska's Post Trial Brief in *US v. Alaska*: 22 ("Ice can literally bulldoze or push sediments from below the sea surface to a higher elevation"). Similar processes in the Arctic occur from "*ice rafting*" and sediment crossing shore-fast ice.

171 See Lauterpacht's explanation at UNCLoS I *supra* footnote 115.

172 See Shalowitz, 1964: Vol. II: 176, who mentions the problem of "*marshes*" where grass may rise above the water surface when the ground on which it grows is below the plane of the low-water.

173 Cf the problem over 'Dinkum Sands' in *US v. Alaska* (*supra* footnote 8). Sea ice has usually been "assimilated to sea water for the purposes of international law". See Boyd, 1984: 98, 100.

## 8. The Importance of Locational Permanence of an Island

### 8.1 The General Rule

The element of “*permanence*” which relates to the above-water (or horizontal) aspect of insular definition may also be said to be applicable in a **locational** (or vertical) sense, i.e., to require that any above-water aspect **remains in the same situation and does not move around**. For it seems clear that whereas baselines may have an **ambulatory element** in them and so change according to natural regressions and progressions of the coastline, the same does not apply to ‘islands’ in the **definitional sense** (even if it may apply to low-tide elevations which, by definition, are **jurisdictionally linked to such coastline**). For in principle it may be argued that any change in the mainland (or insular) low-water line is never likely to be so dramatic as the total centripetal movement of an ‘island’ from its original position in respect of generation of maritime zones.<sup>174</sup> So that there is arguably no such thing as an “*ambulatory*” or “*occasional*” island in international law, allowing its owner to use it as a point for jurisdictional purposes whenever and **wherever** it appears at random.

### 8.2 Analogies with ‘Horizontal’ Impermanence

As has been seen, it would appear not to be legally permissible for a State to continue to use an erstwhile ‘island’ as a basepoint once it has finally disappeared under the surface of the sea.<sup>175</sup> There is, however, at least one precedent of a State opportunistically claiming a suddenly-formed ‘volcanic’ island (a sort intrinsically prone, geologically speaking, to rapid erosion) as a basepoint for a straight baseline system<sup>176</sup>. Such isolated practice **might** indicate that “*the length of time that an ‘island’ has been in existence may be irrelevant to insular status*”;<sup>177</sup> but in such a case there must arguably be a clear prospect of **future** above-surface continuance.<sup>178</sup>

There may be isolated exceptions to this; for example, in the case of features as anchoring points for straight baselines under the new provision in Article 7(4) of the LOSC, which in allowing continued use “*where the drawing of baselines has received general international recognition*”, could apply to a “*lapsed*” islands.<sup>179</sup> But this provision presupposes an element of prior longevity and continuity. This feature would not, for example, be associated

<sup>174</sup> See Beazley, 1978: 2: 149.

<sup>175</sup> Cf the Alaskan claim in *US v. Alaska*, that the disputed formation, ‘Dinkum Sands’, was an “*island*” under the TSC “*at all relevant times*”.

<sup>176</sup> Iceland in the case of Surtsey: see (1975) 14 *International Legal Materials*: 1282.

<sup>177</sup> See Symmons, 1979: 23, 24.

<sup>178</sup> *Ibid*: 24. Cf Beazley, 1971: 143, 149 who opines that it would be “*unsatisfactory*” to have unstable formations as basepoints in a straight baseline system, which may “*move considerable distances or disappear entirely as drying features*”. Some new “*islands*” can, of course, keep on growing higher. For example, after the eruption of Krakatoa in 1883 (and its subsequent tidal wave 135 feet high), no less than four islands emerged from its collapsed crater, of which one named Arak (“*child of Krakatoa*”, which emerged in 1930) is now 600 feet high and steadily growing: see *The Times*, 16/3/1988.

<sup>179</sup> But this provision more probably refers to low-tide elevations with no qualifying installations on them: see Jayewardene, 1990: 74.

with estuarial 'islands' which, like volcanic islands, may come and go at regular periods, as in the Ganges Delta where a number of "temporary islands" (*chars*) as well as permanent islands exist.<sup>180</sup> Such new islands tend to form after monsoons in the Bay of Bengal - e.g., South Talpatty/New Moore/Purbasha<sup>181</sup> - may initially have been low-tide elevations;<sup>182</sup> and the horizontal and vertical permanence problem may here be conflated. For example, it is unclear whether the above-mentioned dispute between India and Bangladesh concerns a 'recycled' formation or an entirely new one.<sup>183</sup> New volcanic islets may behave in a similarly volatile manner.<sup>184</sup>

In general terms, it is evident from the new wording (in Article 7 of the LOSC) that an evanescent or vanished insular basepoint cannot be retained indefinitely, at least in a straight baseline system; for Paragraph(2) thereof decrees that where a coastline is "highly unstable" because of the presence of a "delta" or "other natural conditions", 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 the Convention (emphasis added). This could apply to unstable off-shore **islands** such as deltaic islands or even such features as off-shore coral reefs where above-surface features may often disappear,<sup>185</sup> and **implies an eventual duty to revert to an acceptable basepoint if such insular disappearance occurs**. By analogy, it can be argued that Article 10 of the TSC (and the corresponding article of the LOSC) *a fortiori* requires locational permanence in the case of an 'island' not part of a straight baseline system,<sup>186</sup> and a feature that is "here today and gone tomorrow" hardly satisfies the test of permanence whether in a horizontal or vertical plane.

### 8.3 Visibility to the Mariner

Several authorities emphasise the necessity for **visibility** of a formation to create navigational certainty. And this principle applies with equal force to locational impermanence.<sup>187</sup> Indeed, where horizontal and vertical impermanence go in tandem, practical considerations relating to navigation seem to be influential on the international legal rule in allowing certainty for mariners fixing in fixing their bearings. For were the rule otherwise, there would be no

180 Rahman, 1991: 270.

181 *Ibid.*: 273.

182 *Ibid.*: 278.

183 *Ibid.*: 280, 281.

184 See Fredricksson, 1975: 26, 29, 31, where he points out that parallel with the eruption on the (Icelandic) island of Surtsey, other volcanic activities took place in the area from 1963 to 1966, leading to the formation of no less than two temporary "islands", neither of which could stand up to the North Atlantic waves; so that now the latter formations are some 20 to 40 metres beneath the surface.

185 See Prescott 1981: 492. Cf the Alaskan "fall-back" argument in *US v. Alaska* No. 5 of the Joint Statement of Questions Presented and Contentions of the Parties (1979: 14), "Alternatively... *Alaska claims that it is entitled to the resources of the Dinkum Sands formation... for such periods as the formation is determined to be above the level of mean high-water*".

186 See Johnson, 1951: 203, 214; and Symmons, 1979: 23, 24.

187 US Reply Brief in *US v. Alaska*:7. But note that Alaska cited the *Anna* case as indicating in the US context that "the ephemeral islands and mudlumps off-shore the Mississippi Delta have been recognised for both international and domestic boundary purposes" despite the fact that they can be called "moving islands" and "frequently disappear only to emerge elsewhere".

knowing whether it is the same or a different formation (or formations) which is/are moving around<sup>188</sup> - a matter which has also been a problem in municipal law cases.<sup>189</sup>

It seems therefore that there is no such thing as an “*ambulatory island*” in international law. There must be a sufficient degree of horizontal and vertical permanence.

## 9. Conclusion

What does appear clearly from the above brief (and admittedly selective) survey on insular definition is that international law does here require permanence as to the horizontal plane (i.e., above-tide) elevation and also (but more arguably) as to the vertical plane aspect (i.e., position on the seabed). So that, for example, if a formation loses either (or both) aspects of such permanence, it can no longer legally qualify as an ‘island’ (or, probably, as the case may be, as a low-tide elevation). The first element in this two-pronged requirement of permanence should be gauged not simply, as seen, in terms of tidal datum, but also in terms of the **formation’s** changing height in the light of natural forces which cause it to **lose (or gain) elevation**. Because, in turn, of this possible two-fold consideration, it may be necessary in the monitoring cycle not just to gauge the tidal situation in the area of the elevation, but also of the latter’s vital **above-surface** terrestrial characteristics.

On the tidal datum aspect, one attitude of commentators has been to conclude that, in the light of lack of clarification from caselaw or State practice, one must conclude that the solution has been “*abandoned by international law*” to the free appreciation of States.<sup>190</sup> Such a view is a prescription for international anarchy. International law should have a rule. As it seems contrary to the general principle of “*permanence*” that a formation which is covered by sea with **any degree of foreseeability and regularity** should merit consideration for generating maritime zones, there is, no doubt, some case to be made for a maximalist type of test for islands - such as seen in French practice - which categorises insular qualities according to the highest tidal criteria (astronomical tides) (and likewise a minimalist test for low-tide elevations); but this in turn has elements of impracticality attached to it.<sup>191</sup> It seems clear from what little past practice and commentary there has been on this issue, that such a ‘maximalist’ test has some inherent flexibility, and would make allowances for **exceptional natural conditions**, most obviously freakish atmospheric conditions as mentioned above. *A fortiori*, such a qualification would be built into a less extreme (or ‘minimalist’) insular test such as **mean** high-tide datum, though here the 18-19 year monitoring aspect leaves scope for subjective analysis (and may, as in *US v Alaska*, have to be telescoped into a far shorter period).

<sup>188</sup> US *Post Trial Memorandum* in *US v. Alaska*: 28.

<sup>189</sup> See, e.g., *Randolph v Hinck* (1917) 115 NE Reporter: 182 where it was held that the plaintiff did not lose title to an island by the mere fact that it was totally submerged at one time where the island *reappeared and was capable of identification by its original description*.

<sup>190</sup> As translated from Dipla, 1984: 48. Similarly it has been suggested that for **baseline** purposes, Article 5 of the LOSC “*avoids a direct definition of the low-water mark*” and that this “*merely places responsibility for low-water definition on the accepted practice of each maritime State*”, Aurocochea and Pethick, 1986: 29.

<sup>191</sup> See Prescott, 1981: 276 (“*a difficult tidal datum to find*”).

In light of the above, there is much to be said for choosing an intermediate tidal datum test, such as that of **mean spring tide**, as the international rule. Such a test appears to take on aspects of both more polarised tests. The latter, because of the provisos attaching to each, may arguably differ less in substance when applied to particular cases. Indeed, there are some signs in recent State practice that States with such opposing tidal criteria may in any case be inclined to **compromise on this issue** by applying an equitable solution to a dubious above-water formation so as to reflect, **in part** at any rate, **both** disputants' viewpoints.<sup>192</sup>

It follows from this brief survey that, as argued above, even a formation which may formerly have had the requisite permanence, on the basis of whatever test is applied, may lose this; so that at the critical time for deciding its maritime zones - or even thereafter - such **definite** loss<sup>193</sup> for the future (e.g., through weather or tidal conditions), will **then** necessarily disqualify it from having any (further) jurisdictional effect for the owning State unless, as seen above, there is mutual agreement - explicitly or implicitly - to the contrary with other affected States in the matter. For there is no such thing as an occasional (or peripatetic) 'island' in international law. Recent State practice supports this viewpoint on acceptance of geographical realities. For example, when during UK-Belgian talks on basepoints for maritime delimitation in the English Channel, a routine survey found that the British-claimed basepoint of Shipwash Sands "*had been eroded by the sea to the extent that they no longer counted as [low-tide elevations]*", these were "*formally abandoned*" by the UK.<sup>194</sup> Thus the temporal factor relating to insular status may, for example, be critical in maritime delimitation by treaty because applicable "*geographical features*" such as islands may only be taken into account **as they exist at the time on inter-State negotiations**, with the result that any changes thereafter will not be taken into account in fixing a maritime boundary.<sup>195</sup>

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192 As in the case of the twin Belgium-France agreements on delimitation of (respectively) territorial sea and continental shelf signed on 8/10/1990: see Anderson, 1992: 416, where (in the first territorial sea delimitation agreement) by application of the two different datums, two initial dividing lines were produced, both based on the equidistance method, and where (as Article 2 thereof states), "[it] was agreed that the area lying between the two dividing lines should be divided into two equal parts". A compromise was also reached on this matter in the second (continental shelf delimitation) agreement; see Anerson, 1992: 417.

193 See Symmons, 1979: 24.

194 Anderson, 1992: 418.

195 *Ibid*: 421.

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### **Annex 707**

S.M. Garcia, “The Precautionary Approach to Fisheries and Its Implications for Fishery Research, Technology and Management: And Updated Review”, in *Precautionary Approach to Fisheries, Part 2: Scientific Papers* (1996), FAO Fisheries Technical Paper 350/2, available at <http://www.fao.org/docrep/003/W1238E/W1238E00.HTM> (accessed 10 Nov. 2015)





## THE PRECAUTIONARY APPROACH TO FISHERIES AND ITS IMPLICATIONS FOR FISHERY RESEARCH, TECHNOLOGY AND MANAGEMENT: AND UPDATED REVIEW

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### Abstract

The uncertainty attached to the available understanding on the bio-ecological, economic and social processes in the fisheries systems are now formally recognized in the major international instruments such as the UN Agreement on the Implementation of the Provisions of the 10 December 1982 Convention on the Law of the Sea Relating to Straddling Fish Stocks and Highly Migratory Fish Stocks (1995) and the FAO International Code of Conduct for Responsible Fisheries (1995). The effective implementation of the precautionary approach in all the aspects of fisheries requires understanding from all concerned. This paper, which follows and updates a document presented in 1994 to the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks, clarifies the objectives of the precautionary approach, reviews the trends and perspectives in the perceptions, adoption, and application of the precautionary principle and approach in fisheries, at UNCED, in FAO, UN, ICES, IMO, ICLARM, CCMLAR, and by non governmental organizations (NGOs). The paper examines the issues of uncertainty, error and risk in fisheries and their potential consequences. Subsequently, the paper identifies the implications of the concept of precaution for fisheries research, technology development and transfer, as well as for conservation and management, offering in each case a set of guidelines for implementation. In so doing it offers some analysis of key related issues such as: the burden of proof and the use of the "best scientific evidence" in a precautionary context, the potential for Prior Informed Consent (PIC) and Prior Consultation Procedures (PCPs), Environmental Impact Assessment (EIA), pilot projects and technology lists, the concept of "acceptable impacts", the role of Target Reference Points (TRPs) and Limit Reference Points (LRPs) in precautionary management. In conclusion, the paper proposes a typology of approaches including the preventive, corrective, and precautionary approaches as well as the precautionary principle itself, showing their respective complementary roles in relation to the degree of uncertainty and resulting amount of risk.

### INTRODUCTION

There is an obvious link between the sustainable development of fisheries and their precautionary management. In 1988, the 94th Session of the FAO Council agreed that "*Sustainable development is the management and conservation of the natural resource base, and the orientation of technological and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations. Such development conserves land, water, plant genetic resources, is environmentally non-degrading, technologically appropriate, economically viable and socially acceptable.*" This definition applies well to sustainable fisheries development and management.

The strategies required to ensure a high degree of sustainability in human use of natural renewable

resources systems are not easy to conceive and implement for at least two reasons: (a) our insufficient understanding of the laws governing these systems and the inherent uncertainty about the consequences of our decisions, and (b) the inadequate nature of our institutions and controls (Holling, 1982; 1994), particularly on access to resources. It is generally agreed that the inadequacy in management results essentially from the open access nature of the fisheries and the lack of effective mechanisms to directly control fishing effort levels in the absence of an explicit agreement on the allocation of resources between users. It is also being realized that, in addition, the problem lies partly in the non-recognition of the high levels of uncertainty that characterize fisheries and the related lack of precaution in most management regimes. The review of the state of world fishery resources undertaken by FAO and the global analysis available in the FAO report on the State of Food and Agriculture (SOFA) show that, although management practice has favourably evolved during the last half century, it has tended to lag behind management theory and that progress towards sustainability, since the first FAO Technical Committee on Fisheries in 1945, has been insufficient. It is now recognized that the biomass of many important fish stocks is close to or even below the level that could produce the maximum sustainable yield (MSY), leading to resource instability and economic losses. A number of fisheries have collapsed ecologically or economically and the situation in the high seas raises particular concern. In many areas, the present situation is one of resource erosion, economic losses and social dislocations that illustrate the fisheries management risk and reflect behaviour which in the last decades has been neither sufficiently responsible nor precautionary (Garcia, 1992; FAO, 1993; Garcia and Newton, 1994; 1995).

The increased recognition that conventional fishery management needed to be improved has been accompanied by a growing concern for environmental management, particularly as a result of the World Conference on Human Environment (Stockholm, 1972), the FAO Technical Conference on Fishery Development and Management (Vancouver, 1973), the FAO World Conference on Fisheries Management and Development (Rome, 1984), the United Nations Convention on the Law of the Sea (hereafter, the 1982 Convention), the work of the Brundtland Commission from 1984 to 1987 (World Commission on Environment and Development, 1987), the United Nations Conference on Environment and Development (Rio de Janeiro, 1992), the International Conference on Responsible Fishing (Cancun, Mexico, 1992) and the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks (New York, USA, 1993–1995). Moreover, the emerging awareness of the complexity of marine ecosystems and related scientific uncertainty, particularly in the high seas, and of the risk of error in management, requires an acceleration of the evolution of fishery management, a broadening of its scope and a change in attitudes. Two important and related requirements of the new management context are the need for more caution and for better inter-generational equity. The latter issue concerns the ethics of renewable resource use and the moral obligation placed on the current generation to exploit the resources and enact conservation measures in such a manner as to preserve options for future generations.

The poor control of fisheries development by fishery management authorities is one of the major reasons for the present state of fisheries. In natural ecosystems, the abundance of preys and predators, and their variations, are controlled and maintained within limits compatible with the ecosystems sustainability by a set of complex interactions and feed-back mechanisms. In ecological terms, fisheries are organized “top predators”. As such, their survival depends on the survival of their living resources and they are certainly far more sensitive to natural feedback information on the state of the resources they exploit than industrial systems using oceans as a resource for waste-dumping. However, contrary to natural predators, fishermen are not entirely controlled by feedback signals of resource stress. Their operations are not totally dependent on the abundance of the various elements of the resource ecosystem and, indeed, are partly isolated from such feedback controls by various mechanisms such as price increases (as resources become scarcer), technological improvements in efficiency, shifts to other species or areas, and governmental subsidies. They can, therefore, continue and even expand their operations despite the environmental and resource degradation they may produce.

Section 1 of the document defines the objectives of the precautionary approach in the specific field of fisheries. Section 2 proposes some definitions of key concepts used in the document. Section 3 provides an updated review of trends and perspectives in the development in the concepts and applications of the principle of precautionary action, including both the precautionary principle and precautionary approach. Section 4 concentrates on one of the major issues related to, and indeed justifying, precaution such as the uncertainty due to incomplete knowledge, the potential errors in decision-making and the consequent potential risk. Sections 5, 6 and 7 describe the implications of the precautionary approach and provide

practical guidance for its application in the respective areas of research, technology development and transfer, and conservation and management. The conclusion provides a summary of the approach and its prospects, focusing particularly on management.

## 1. OBJECTIVES OF THE PRECAUTIONARY APPROACH

The modern requirement to deal explicitly with uncertainty, in order to reduce risks to the resources and their environment (and indeed to the fishing communities), requires significant changes in the fields of science, technology and fishery management. Such changes are required in order to effectively deal with the unprecedented shift in policy and international relations and with the metamorphosis of public perceptions and political demands resulting from the 1982 UN Law of the Sea Convention, UNCED and its Agenda 21. One of the elements of change is the requirement for a more precautionary approach to natural resources management. The **concept of precautionary action** aims generally at improving conservation of the environment and the resources by reducing the risk of inadvertently damaging them. More specifically, it aims at helping decision-makers and regulators to take a safeguarding decision, when the scientific work is inconclusive but a course of action has to be chosen. In addition, it intends to promote a more equitable balance between the short-term considerations (which led to the present environmental degradation and overfishing) and long-term considerations such as the need to conserve resources for future generations. It aims at promoting inter-generational equity by reducing the cost of our decisions for future generations and by counteracting the effects of current high economic discount rates which provide a strong incentive to overfish, maximizing the discounted net benefits from a stock and, *de facto*, giving preference to present consumption over future consumption<sup>1</sup>. By comparison, and despite the fact that it theoretically aims at sustainability, conventional fishery management addresses primarily, and rather inefficiently, the issue of inter-generational equity and allocation of resources between present users. The concept of precautionary action will also directly benefit present generations of fishers and consumers if fishery authorities and industry actively promote its implementation by other economic sectors whose activities damage ocean productivity, fishing communities' livelihood and consumers' health<sup>2</sup>.

<sup>1</sup>This factor often leads to proposals to introduce a social discount rate. However, there are severe practical difficulties in determining and implementing such rates. A more satisfactory solution would appear to be through proper pricing of resources, including not only the marginal cost of harvesting, but also the foregone value of catches no longer available to future generations

<sup>2</sup>Opportunity to promote this approach is given by the growing requirement to integrate coastal fisheries management into the Integrated Coastal Areas Management (ICAM) within which inter-sectoral competition for resources should be organized and controlled

## 2. DEFINITIONS

The literature on the precautionary principle or approach is loaded with terms the meaning of which may not always be obvious or universally agreed and, in order to facilitate common understanding, this section proposes some definitions with their source. The original ones draw heavily from the discussions in the following sections and should be considered together with them.

**Acceptable impact:** A negative, or potentially negative, alteration of the exploited natural system, resulting from human activities (i.e., fisheries and other impacting industries), the level and nature of which, on the basis of available knowledge, is considered as representing a low enough risk for the resource, system productivity, or biodiversity. Its acceptability is continuously kept under review and can be revoked on the basis of new knowledge.

**Approach:** "A way and means of reaching something. The method used in dealing with or accomplishing something" (Houghton Mifflin Co., 1992).

**Precaution:** "An action taken in advance to protect against possible danger or failure; a safeguard. Caution practised in advance. Forethought or circumspection" (Houghton Mifflin, 1992). Action taken in advance of scientific certainty but within the bounds of scientific uncertainty, to avoid or minimize negative impact, taking into account the potential consequences of being wrong (modified from a definition in relation to global climate change by Turner, O'Riordan and Kemp, 1991).

**Precautionary approach:** A set of agreed cost-effective measures and actions, including future courses of action, which ensures prudent foresight, reduces or avoids risk to the resources, the environment, and the people, to the extent possible, taking explicitly into account existing uncertainties and the potential consequences of being wrong<sup>3</sup>.

**Principle:** “A basic truth, an assumption. A rule or standard, especially of good behaviour. A fixed or predetermined policy or mode of action” (Houghton Mifflin, 1992)<sup>4</sup>.

**Reference points:** “A (management) reference point is an estimated value derived from an agreed scientific procedure and an agreed model to which corresponds a state of the resource and of the fishery and which can be used as a guide for fisheries management”<sup>5</sup>:

**Limit Reference Point (LRP):** indicates the state of a fishery and/or a resource which is not considered desirable. Fishery development should be stopped before reaching it. If a LRP is inadvertently reached, management action should severely curtail or stop fishery development, as appropriate, and corrective action should be taken. Stock rehabilitation programmes should consider an LRP as a very minimum rebuilding target to be reached before the rebuilding measures are relaxed or the fishery is re-opened.

**Target Reference Point (TRP):** corresponds to the state of a fishery and/or a resource which is considered desirable. Management action, whether during a fishery development or stock rebuilding process, should aim at maintaining the fishery system at its level.

**Threshold Reference Point (ThRP):** indicates that the state of a fishery and/or a resource is approaching a TRP or a LRP, and at which a certain type of action (usually agreed beforehand) needs to be taken. Fairly similar to LRPs in their utility, the ThRPs' specific purpose is to provide an early warning, reducing further the risk that the TRP or LRP is inadvertently passed due to uncertainty in the available information or to the inertia of the management and industry system. Adding precaution to the management set-up, they might be necessary only for resources or situations involving particularly high risk.

**Risk:** In general, “the possibility of suffering harm or loss; danger. A factor, thing, element, or course involving uncertain danger, a hazard” (Houghton Mifflin, 1992). In decision theory “the degree of probability of loss. A statistical measure representing an average amount of opportunity loss” (Kohler, Cooper and Ijiri, 1983). This terminology is used “when large amounts of information are available on which to base estimates of likelihood, so that accurate statistical probabilities can be formulated” (Pass *et al.*, 1991). The Technical Consultation on the Precautionary Approach to Capture Fisheries (FAO, 1995), in this case, refers instead to “*expected loss*” or “*average forecasted loss*” to clearly distinguish between the general meaning and the decision-theoretic one (see also Shotton, 1993).

**Risk analysis:** “Any analysis of unknown chance events for purposes of effecting or evaluating decisions in terms of possible penalties and benefits attending these events. A method for generating different probability distributions with accompanying cost and benefits that may attend different courses of action. Generally uses computer simulations” (Kohler, Cooper and Ijiri, 1983).

**Uncertainty:** “The condition of being uncertain. Doubt. Something uncertain. In statistics, the estimated amount or percentage by which an observed or calculated value may differ from the true value” (Houghton Mifflin, 1992). “The incompleteness of knowledge about the states or processes in nature” (FAO, 1995).

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<sup>3</sup>There is paradoxically no definition of the precautionary approach which is generally related to the need to take action even in the absence of “full scientific certainty” and defined by its implications. This definition has been developed by the author based on the definitions of “precaution” and “approach”, above, and on UNCED Principle 15

<sup>4</sup>It can be noted that while the first part of this definition differentiates between the precautionary “principle” and “approach”, the second part tends to blur the difference between the two concepts

<sup>5</sup>According to the *ad hoc* Working Group on Reference Points established by the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks in New York, in March 1994 (cf. Annex 5)

### 3. TRENDS AND PERSPECTIVES

There is no explicit reference to the principle in the 1982 Convention. Part XII, on “Protection and preservation of the marine environment”, does not contain detailed instruments for implementation of the conservation of the marine ecosystem, but it does state in a global instrument, in article 192, the following general obligation: “*States have the obligation to protect and preserve the marine environment*” (Burke, 1991). In addition, ecosystem conservation also requires measures for the fisheries sector, striking a balance between the provisions for environmental conservation and fisheries management to ensure sustainable exploitation.

However, in fisheries, the concept of precautionary action seem to have progressively become an important factor in negotiations between States to establish management measures in circumstances where there is an obligation to negotiate in good faith to reach agreement (e.g., with respect to highly migratory, straddling or shared fish stocks, under the 1982 Convention). It can be assumed that, given the wide support for this concept in environmental law, a State which refers objectively to it will hope that it cannot be accused of bad faith (Burke, 1991). The concept is also developing in national fisheries management regimes. The concept of precaution has been expressed as “the **precautionary principle**” (hereafter, the principle) or “the **precautionary approach**” (hereafter, the approach). Although the two terms relate equally well to the concept of caution in management, and sometimes not differentiated by scholars (e.g., Bodansky (1991) uses the two terms alternatively), they are differently perceived by international lawyers, negotiators and industry, as shown below. The term “approach” is apparently more generally accepted by Governments in the fisheries arena because it implies more flexibility, admitting the possibility of adapting technology and measures to socio-economic conditions, consistent with the requirement for sustainability. It is particularly more appropriate for fisheries because consequences of errors in their development or mismanagement are unlikely to threaten the future of humanity and, in most cases, are reversible. On the contrary, the term “principle” has developed a negative undertone because it is usually given a radical interpretation and has led to the outright ban of technologies, e.g., in the case of whaling (Bodansky, 1991) and the Large Scale Pelagic Driftnet Fishing (see below), and is sometimes considered incompatible with the concept of sustainable use. These two concepts are further elaborated below.

#### 3.1 The Precautionary Principle

This principle's most characteristic attributes are that: (a) it requires authorities to take preventive action when there is a risk of severe and irreversible damage to human beings; (b) action is required even in the absence of certainty about the damage and without having to wait for full scientific proof of the cause-effect relationship, and (c) when there is disagreement on the need to take action, the burden of providing the proof is reversed and placed on those who contend that the activity has or will have no impact.

It seems generally agreed that the precautionary principle has originated in Germany as the “Vorsorgenprinzip” (Dethlefsen *et al.* 1993). The principle has been referred to and applied at national level in relation to human activities with potentially severe effects on human health (engineering, the pharmaceutical and chemical industries, nuclear power plants, etc.). In international environmental law, the principle has emerged as a recognition of: (a) the uncertainty involved in measuring the impact of toxic substance on the ecosystem and the human health, and (b) deciding on the “assimilative capacity” of such ecosystems (i.e., their ability to absorb a certain quantity of the substance in question without unacceptable impacts). In the 1970s, following the 1972 Stockholm Conference, concern for human safety was progressively extended to the human environment and to other species. This led to increasingly frequent reference to the principle in international agreements and conventions, often with limited consideration of its practical implications. It has been introduced at international level at the First International Conference on the Protection of the North Sea (1984) in relation to persistent toxic substances susceptible to bioaccumulation in the marine ecosystem. The 1987 Declaration of this Conference contains an example of the concept of precaution in relation to coastal States' jurisdiction,

habitats, species and fisheries, including pollution from ships. It provides that “*States accept the principle of safeguarding the marine ecosystem by reducing dangerous substances, by the use of the best technology available and other appropriate measures*” and that “*this applies especially when there is reason to assume that certain damage or harmful effects on the living resources are likely to be caused by such substances and technologies, even where there is no scientific evidence to prove a causal link between practices and effects.*”

The scope of application of the precautionary principle was successively broadened from persistent toxic substances to all synthetic persistent substances, natural substances released in large quantities (e.g., nutrients responsible for eutrophication) and finally to all emissions responsible for global warming (Dethlefsen *et al.*, 1993). The principle has been invoked in issues related to the ozone layer (1985 Vienna Convention for the Protection of the Ozone Layer and the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer) where States agreed to reduce emissions of certain substance at a time when the causal links had not yet been firmly established (Boelaert-Suominen and Cullinan, 1994). It has also been referred to in relation to the greenhouse effect and the conservation of nature. It has touched indirectly on fisheries through provisions in the international convention on dumping at sea (the Paris and Oslo Conventions, Marpol) relating to pollution by fishing vessels. The 1991 International Conference on an Agenda of Science for Environment and Development into the 21st Century (ASCEND 21) referred to the principle, stressing “*the central importance of the precautionary principle according to which any disturbance of an inadequately understood system as complex as the Earth system should be avoided*”. Broadus (1992) asked whether that meant “any disturbance” and at “any cost” indicating that the principle was not a principle but a range of more-or-less rhetorical prescriptions for choice in front of uncertainty. The principle has also been considered as particularly appropriate in the context of Integrated Coastal Areas Management (Boelaert-Suominen and Cullinan, 1994) because of the vulnerability of coastal resources, the likelihood of swift and irreparable harm, and the incomplete understanding available on the complex web of interconnected biological processes in the coastal area. More recently, the precautionary principle has also implicitly been included in the Convention on Biological Diversity (UNEP, 1992) which noted, in its preamble “*that, where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimizing such a threat.*”

The principle remains contentious both within the scientific community and from the point of view of policy-makers and these controversies are illustrated in the fact that there is, as yet, no generally accepted formulation of the principle. When the interpretation of the principle is softened, the border between it and the approach is significantly blurred. For instance, Young (1993, cited by Dovers and Handmer, 1995), proposes to consider four different levels of application of the principle, corresponding to decreasing levels of risk, potential degree of irreversibility, and uncertainty:

Level 1: Impacts are potentially serious (unacceptable) or irreversible and uncertainty is high: a strict application of the principle is required, insisting on complete reversibility and putting a strong burden of proof<sup>6</sup> on development proponents.

Level 2: Impacts may be serious but potentially reversible and a reasonable amount of data is available to appreciate risk: large safety margins should be ensured in assessments and decisions and use of the best available technology should be strictly required, i.e., regardless of costs.

Level 3: Impacts are considered largely acceptable (and/or potentially reversible) and reasonably good scientific and other information is available: lower safety margins are accepted. The best available technology is required only if economical.

Level 4: Potential losses are considered neither serious nor irreversible: decisions could be based on traditional cost-benefit analysis.

<sup>6</sup>See discussion on the burden of proof in Section 5

The conditions for the application of levels 3 and 4 and their implications are very similar to the conditions and implications of the precautionary approach and illustrates that these two related concepts are

sometimes difficult to distinguish.

### **The large-scale pelagic driftnet issue**

The UN General Assembly Resolution 44/225 of 22 December 1989, on large-scale pelagic driftnet fishing and its impact on the living marine resources of the world's oceans and seas, could be considered a case of radical application of the concept of precaution, despite the lack of explicit reference to the principle. The resolution expressed concern about the size of the fleets, the length of the nets, their mode of operation, their potential impact on anadromous and highly migratory species, their by-catch and the concern of coastal countries on the state of resources close to their exclusive economic zones. It recommended that a worldwide moratorium should be imposed on all driftnet fishing by 30 June 1992 and it established a set of immediate and regionally tailored interim measures. It also provided that such measures would not be imposed in a region or, if implemented, could be lifted, should effective conservation and management measures be taken upon *statistically sound analysis* to be made jointly by concerned parties. The proposal is rational but the flaws in the process followed for the implementation of the resolution have been underlined (Miles, 1992, 1993; Burke, Freeberg and Miles, 1993).

The consequences of this resolution, after heated international debate and political pressure, has led to the discontinuation of the issuance of fishing licences and research for alternative fishing techniques, in Japan and Taiwan (Province of China); the docking and conversion of driftnet fishing vessels in the Republic of Korea and a regulation by the European Union (see below). Large-scale driftnet fishing stopped in the South Pacific in 1992–93 but some fishing continued in the Mediterranean and Bay of Biscay, where scientific experiments were conducted to assess the fishery's impact on the associated small cetaceans. Many other Mediterranean countries, however, have taken regulations prohibiting driftnet fishing in their waters. Following up on the UN Resolution, the European Community adopted a Council Regulation (N° 345/92 of 27/1/1992) limiting to 2.5 kilometres the length of the driftnets authorized, but granting a derogation to 5.00 kilometres, until 31 December 1993, to vessels having fished for at least three years preceding the implementation of the regulation. This derogation was to expire by the indicated date unless scientific evidence showed the absence of “*any ecological risk*”.

### **3.2 The Precautionary Approach**

In considering the introduction of more precaution in fisheries management and development, the main differences between fisheries impacts and chemical industries pollution (for the control of which the precautionary principle was created) must be kept in mind:

- a. the assimilative capacity in relation to fisheries impact (i.e., the quantities of fish that can be removed without damaging the system's productivity) exists without doubt and can be determined with some accuracy, even though it varies, and
- b. the impacts are, in most cases, reversible and, as a result, the potential consequences of an error would rarely be dramatic, even though they can be significant in socio-economic terms.

In the early 1990s, the precautionary approach has been progressively more accepted and its field of application has been broadened to include the management of natural renewable resources, including fisheries. The aims of the precautionary approach are similar to those of the precautionary principle from which the approach is sometimes difficult to distinguish. The main difference between the principle and the approach might be that the latter considers explicitly the social and economic implications of its application in order to ensure that: (a) it does not lead to imbalance in favour of non-fishery uses and future generations with undue strain on present generations and the fishery sector, and (b) that unavoidable short-term costs to the fishery sector are mitigated and equitably shared. The various interlinked processes that lead to the widespread adoption of the precautionary approach in fisheries, are briefly described below.

### **The UNCED process**

UNCED stressed the need for a precautionary approach to ocean development in its Rio Declaration and in Agenda 21, particularly in its chapters on the management of coastal areas, resources under national jurisdiction and high seas resources. The principle 15 of the Declaration states that “*in order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities.*”

*Where there are threats of serious or irreversible damage, lack of full scientific certainty shall be not used as a reason for postponing cost-effective measures to prevent environmental degradation.*" The wording, largely similar to that of the principle, is subtly different in that: (1) it recognizes that there may be differences in local capabilities to apply the approach, and (2) it calls for cost-effectiveness in applying the approach, e.g., taking economic and social costs into account. UNCED led to agreement on two principles which are intuitively reasonable and potentially contradictory: the precautionary approach and the principle of economic efficiency. The delicate co-existence of these two principles impedes the development of safeguards against uncontrolled decisions (or lack of decisions).

### The FAO process

Many years before the issue became fashionable in the fisheries circles, FAO, through its European Inland Fisheries Advisory Commission (EIFAC), collaborated with the International Council for the Exploration of the Sea (ICES) in the development of ICES/EIFAC Codes of Practice and Manual of Procedures for Consideration of Introduction and Transfer of Marine and Freshwater Organisms (Turner, 1988)<sup>7</sup>. This Code stresses that, in a context of rapidly changing population pressures, the impact of the introduction of species to enhance the potential of sustainable fisheries should be examined in the light of the likely impacts of alternative development strategies, involving environmental degradation and likely to result in changes in species composition of both the terrestrial and aquatic ecosystems.

More recently, in a review of the FAO programme in marine fisheries management, Garcia (1992) identified some of the challenges to be faced by fisheries in the period 1993–2000. These included: the uncertainty in the scientific information, the need for a more precautionary approach to management, the burden of proof and the need to define "acceptable" levels of impact. At the 1992 FAO Technical Consultation on High Seas Fishing, Garcia (1992a) stressed the uncertainty in the "best scientific evidence available" for management and drew attention to issues of precaution and burden of proof, the non-precautionary nature of the traditional MSY reference point, and the need for more and different reference points to be used as a basis for more precautionary management strategies. The Consultation provided guidance to the Fisheries Department of FAO on how to proceed (FAO, 1992) and, *inter alia*, agreed that:

- fisheries should be managed in a cautious manner;
- precaution did not necessarily require a moratorium on fishing;
- there was a need to identify methods to handle uncertainties;
- the objective was to safeguard both people's livelihood and biodiversity;
- existing precautionary measures should be included in the Code of Conduct;
- precautionary measures should be based on science and not be discriminatory, and
- measures should be revised or revoked when new information became available.

<sup>7</sup> A full-scale practical application of this Code has been undertaken by FAO in Papua New Guinea (Coates, 1994), starting from the premise that introductions of new species in an aquatic ecosystem should be subject to prior evaluation, irrespective of whether species are "exotic" or not

The International Conference on Responsible Fishing (Mexico, 6–8 May 1992), organized in close cooperation with FAO, defined the concept of responsible fishing as encompassing "*the sustainable utilization of fishery resources in harmony with the environment; the use of capture and aquaculture practices which are not harmful to ecosystems, resources or their quality; the incorporation of added value to such products through transformation processes meeting the required sanitary standards; the conduct of commercial practices so as to provide consumers access to good quality products*". The Cancun Declaration contains a fairly complete prescription for modern fishery management covering environmental impacts; multispecies by-catch and discards issues; effort control requirements; etc., but did not include any explicit reference to the precautionary approach. One year later, however, the Inter-American Conference on Responsible Fishing (Mexico City, July 1993) referred to the need to take precaution into account in the Code of Conduct on Responsible Fishing, particularly in the high seas.

In 1993, the review of the state of highly migratory species and straddling stocks, prepared by FAO at the request of the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks indicated that it was necessary "*to analyse the potential role and agree on possible ways of implementing cautious*

*management approaches compatible with sustainable fisheries*" (FAO, 1994, page 65). Following a first attempt to analyse in detail the various implications of the concept of precautionary action in fisheries research, management and development (Garcia, 1994), a document was prepared by FAO, to comply with a request by the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks (Second Session, July 1993). This document (United Nations, 1994; Garcia, 1994a) was presented to the UN Conference at its meeting of March 1994. Even though it was prepared for a meeting on straddling and highly migratory resources, the document was considered by FAO as generally pertinent for all resources and fisheries, whether in the high seas or under national jurisdiction, because it was felt and stated that, if a resource required precaution, it should be provided regardless of the type of jurisdiction, and the set of management measures applied to the various life stages of a transboundary resource should be coherent across its entire area of distribution. Unfortunately, this logical and basic biological requirement became, at the UN Conference, one of the major points of disagreement because some coastal countries considered that the need for overall "coherence" or compatibility between the management regimes inside and outside the EEZ could represent or be interpreted as an encroachment on their sovereign rights<sup>8</sup>.

The issues of scientific uncertainty and precaution were also addressed in another document prepared by FAO for the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks, on management reference points (United Nations, 1994a; FAO, 1994). This report recognized that "*most of the difficulties experienced in using any target reference point results from the considerable uncertainties as to the current position of the fishery in relation to it*". It suggested using limit reference points (LRPs) as a way to increase the precautionary nature of the management set-up. Such LRPs, to be used alone or in combination, could correspond, for example, to situations where: (a) spawning biomass or proportion of mature individuals fall below, say, 20% of the values for the virgin stock; (b) fishing mortality falls below, say, 30% of the virgin stock biomass-per-recruit or reaches 80% of the rate of natural mortality; (c) total mortality reaches the level corresponding to Maximum Biological Production for the stock; (d) mean individual size fall below the mean size at maturity; (e) annual recruitment levels remain below a certain level (or average level) for a certain number of years, and (f) the resources rent have been totally dissipated (i.e., the total cost of fishing, including reasonable revenues to manpower and capital, are equal to total revenues), etc.

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<sup>8</sup>A situation could be foreseen in which a sovereign coastal State could see its right to introduce a technology (e.g., a new fishing gear, or practice, or genetically modified organisms) questioned by non coastal countries exploiting the same straddling or highly migratory stock

FAO has started the preparation of a **Code of Conduct for Responsible Fisheries** following the International Conference on Responsible Fishing, held in Cancun (Mexico, 1992). The Code includes a section on precautionary approach as part of the Article 6 on Fisheries Management<sup>9</sup>. The implementation of the Code of Conduct will be facilitated by a series of specific guidelines, one of which will address the precautionary approach to fisheries management (including aspects related to the introduction of new species). The precautionary approach promoted by FAO is being progressively reflected in the fishery sector reality. The applications to inland fisheries and aquaculture have been already mentioned above. In addition, in the last session of the Working Party on Resources Evaluation of the Committee for Eastern Central Atlantic Fisheries (CECAF) it was recommended that, as a *precautionary approach*, the fishing effort exerted on horse mackerels in Morocco, Mauritania, Senegal and Gambia, should be kept at the level as in the late 1980s. A practical application of the precautionary approach to management of tropical shrimp fisheries has also been proposed (Garcia, 1996) illustrating the possibility to make maximum use of the available scientific information, with its uncertainty, to elaborate precautionary management advice.

More recently, and in direct relation to the process of development of the FAO International Code of Conduct, the Government of Sweden, in close cooperation with FAO, held a Technical Consultation on the Precautionary Approach to Capture Fisheries (Including Species Interaction) in Lysekil, Sweden, 6–13 June 1995 (FAO, 1995). This meeting drafted a set of guidelines (which will support the Code of Conduct) and produced a number of technical background documents dealing in detail with specific technical issues addressed in the guidelines (Fitzpatrick, 1995; Hilborn and Peterman, 1995; Huppert, 1995; Kirkwood and Smith, in press; Rosenberg and Restrepo, 1995). including the present review.

## The United Nations process

At its first substantive session, held at New York in July 1992, the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks (hereafter called the Conference) also addressed the issue. It could not reach consensus on the precautionary principle, which many countries equated with a moratorium on fishing and considered too radical for such environmentally soft industries as fisheries. A consensus developed instead on the need to introduce or strengthen the precautionary approach to fishery management. During its Second Session, in July 1993, the Conference considered again the issue. The Chairman negotiating Text (A/CONF.164/13<sup>9</sup>) contained only one reference to the precautionary approach, in Article 4: “*Use of the precautionary approach shall include all appropriate techniques, including, where necessary, the application of moratoria*”. A paper submitted at this meeting by Argentina, Canada, Chile, Iceland and New Zealand (United Nations, 1993) proposed selected precautionary measures on the High Seas, distinguishing between existing and newly discovered fisheries. **For existing fisheries**, the text suggested *inter alia* that: (a) TACs and effort limitations shall be established to maintain exploitation rates below the level of MSY and, where appropriate, to allow the stock to rebuild; (b) precautionary management thresholds shall be established at which pre-determined management courses of action should be taken; (c) where stocks decline over time, TACs and effort shall be reduced to arrest the decline and subsidies for fishing operations shall be stopped, and (d) by-catch limitations should be established and stocks of associated or dependent species should be maintained or restored. **For newly discovered stocks**, the text suggested also that: (a) early large-scale development of fisheries on newly discovered stocks shall be prohibited and limitations shall be applied immediately on effort and on Government assistance, and (b) precautionary Total Allowable Catches (TACs) and quotas shall be established below the MSY level. In addition to these largely technical measures aiming at increasing precaution, the document contained proposals aiming at giving to the coastal States special prerogatives to establish interim management measures: (a) in case of discovery of a new straddling or highly migratory resource and (b) when the coastal State has established that an emergency exists. The heated debate on this latter aspect of the proposal has overshadowed the other aspects of the proposal.

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<sup>9</sup>The text of this section (Annex 1) is only provisional and will be revised on the basis of the outcome of the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks

Nonetheless, during its 1993 Session, the Conference requested the Food and Agriculture Organization (FAO) to prepare two information papers: one on the precautionary approach in fisheries management and one on management reference points. During its Third Session, in March 1994, the Conference considered again the issue of precaution, based on the document prepared by FAO and the proposals included in paragraph 5 of the Chairman’s Negotiating Text (Annex 2) which referred specifically to the precautionary approach to management. Two working groups were held: on the precautionary approach and on management reference points. The outcome of the heated debate on precaution during the following sessions of the Conference was reflected in a number of modifications of the draft Chairman Negotiating Text which represented a substantial elaboration on the approach (cf. Annex 3 and 4). The UN *ad hoc* Working Group on Management Reference Points reached consensus on all but one of a set of Technical Guidelines on Biological Reference Points (see Annex 4). The only serious conflictual point, already referred to above, related to the need for coherence in management measures across the area of distribution of the species.

## The NGOs process

Non-Governmental Organizations (NGOs), both international and national, environmental or professional have participated actively in the UN process, lobbying for recognition of the need for a precautionary approach to fisheries which would involve, *inter alia*:

- taking decisions even with inadequate evidence;
- reversing the burden of proof;
- requesting Environmental Impact Assessments;
- avoiding non-reversible impacts;
- adopting management reference points;
- establishing action-triggering thresholds points;
- allowing people’s participation;

- promoting transparency;
- establishing sanctuaries;
- taking into account combined stresses on resources;
- reducing by-catch and increasing selectivity;
- conserving also associated and dependant species;
- testing management regimes robustness;
- allowing new fisheries only at very low pilot level;
- establishing dispute settlement mechanisms, and
- promoting inter-generational equity.

NGOs have generally welcomed the FAO efforts towards the operationalization of a precautionary approach to fisheries which recognized the need to: (a) apply it to all fisheries; (b) apply it throughout the stock range, and (c) agree on criteria and actions to be taken before a crisis occurs. Despite complaints of insufficient opportunity for interaction in the Code of Conduct process by some NGOs, it is clear that there is a large coincidence between the NGOs' proposals and the FAO code and guidelines. Some environmental NGOs, however, considered that the FAO approach was too much oriented towards the protection of the fishery sector, making excessive reference to the socio-economic burden associated with it. Some criticized the proposed use of "reversibility" as a criteria for acceptability, considered as a loophole. A fishermen's association, on the contrary, considered that some the FAO proposals were unbalanced, setting an impossible burden for industry. It is clear that more interaction is needed even though there is a basic agreement on what should be done. Expectations of Governments and NGOs may never be identical and differences will also exist between different NGOs. It is therefore probably not reasonable to expect full agreement, by everyone, on all aspects of such a critical issue.

#### **International Council for the Exploration of the Sea (ICES)**

Another example of the precautionary approach can be found in the form in which the Advisory Committee on Fisheries Management (ACFM) of the International Council for the Exploration of the Sea (ICES) delivers its advice to its member States. The ACFM states that "*for stocks where, at present, it is not possible to carry out any analytical assessment with an acceptable reliability, ACFM shall indicate precautionary total allowable catches (TACs) to reduce the danger of excessive efforts being exerted on these stocks*" (Serchuk and Grainger, 1992). The implicit assumption in the ACFM advice is that, in the absence of scientific assessments, uncontrolled fisheries are likely to build up overcapacity and overfish the resources. The preventive action is to establish TACs at conservative levels to limit fishing until better assessments become available. The implication is that such conservative measures would be lifted only if better information, in the form of an acceptable analytical assessment were provided.

In addition to the work on species introductions undertaken with FAO-EIFAC (referred to above under the FAO process), ICES also developed a Code of Practice on the Introduction and Transfer of Marine Organisms (ICES, 1995) dealing more specifically with the introduction of Genetically Modified Organisms (GMOs). It is worth noting in this respect that in considering this Code of Practice, the FAO-SWEDEN Technical Consultation on the Precautionary Approach to Capture Fisheries (FAO, 1995) indicated that "*because of the high probability and unpredicted impacts, many species introductions are not precautionary*" and that "*a strictly precautionary approach would not permit deliberate introductions and would take strong measures to prevent unintentional introductions*".

#### **International Maritime Organization (IMO)**

Although not directly related to the fishery sector, the efforts of IMO to reduce the impact of accidental introduction in ballast water and sediment of tankers as well as hull fouling, are worth mentioning. Such accidental introductions are numerous and have resulted in serious damage to the fisheries and aquaculture ecosystem and resources in some cases (Bartley and Minchin, 1995; Mee, 1992; Zaitsev, 1993). The IMO guidelines for Preventing the Introduction of Unwanted Aquatic Organisms and Pathogens from Ship's Ballast Water and Sediments (IMO, 1994) addresses the issue and aim at minimizing the risk of introduction. The issue was also addressed by the FAO-SWEDEN Technical Consultation on the Precautionary Approach to Capture Fisheries (FAO, 1995) which stressed that present practices were largely non-precautionary and that major changes in behaviour, technology and enforcement were required.

### **The World Conservation Union (IUCN)**

The IUCN view on precaution is that *“a precautionary approach should underlie all fisheries management, rather than being restricted to special cases”* and that *“major interventions in the natural environment should not be conducted in the absence of information to assess the potential consequences”* (Cooke, 1994). Cooke stressed that it was necessary not only to set and declare the management objectives but also to ensure (through scientific simulations or otherwise) that the management procedures in place result in a high probability to meet these objectives under a wide range of scenarios with respect to stock dynamics and ecological interactions. In order to qualify as “precautionary” a management approach would therefore have *“to be sufficiently fully specified to enable its simulation, and to pass at least a minimum checklist of tests”*. Cooke, further proposed that authorized levels of catches be inversely related to the amount of data available and that considerations related to protection of fishery habitats, non-target species and biodiversity be included in a precautionary approach. When describing the elements needed to test a management procedure, Cooke lists all the sources of uncertainty regarding the stock, required to predict how the stock might behave (e.g., sampling variability and biases; uncertainty and long-term fluctuations in stock productivity, dynamics and structure, recruitment, mortality and growth and interactions with other species). Conspicuously lacking from the recommended approach are, however, all the important and often driving sources of uncertainty regarding the fishery sector itself, the fleet and capital dynamics, the alternative employment, the fishermen's behaviour, etc. Without such elements, simulation of management systems in most fisheries would be fairly unreliable.

### **International Center for the Living Aquatic Resources Management (ICLARM)**

The International Center for Living Aquatic Resources Management (ICLARM) has recently developed its position regarding the introduction of species and the need for a precautionary approach (Pullin, 1994) which promotes adherence to the ICES-EIFAC guidelines and acknowledges the potential impact of genetically modified organisms.

### **Commission for the Conservation of the Antarctic Marine Living Resources (CCAMLR)**

While not referring to the precautionary approach explicitly, the CCAMLR Convention includes important principles of ecosystem conservation<sup>10</sup> such as:

- *“ Prevention of decrease in size of any harvested population to levels below those which ensure stable recruitment. For this purpose its size should not be allowed to fall below a level close to that which ensures the greatest net annual recruitment;*
- *Maintenance of ecological relationships between harvested, dependent and related populations of Antarctic marine living resources and the restoration of depleted populations to the levels defined in sub-paragraph (a) above;*
- *Prevention of changes or minimization of the risk of changes in the marine ecosystem which are not potentially reversible over two or three decades, taking into account the state of available knowledge of the direct and indirect impacts of harvesting, the effect of introductions of alien species, the effect of associated activities on the marine ecosystem, and of the effects of environmental changes, with the aim of making possible the sustainable conservation of the Antarctic marine living resources.”*

<sup>10</sup>Conservation taken as explicitly including sustainable use

The last principle is particularly typical of the precautionary approach as it addresses the concepts of risk and reversibility in a broad ecosystem concept (see Kirkwood and Smith, in press) for more details. CCAMLR has also introduced precautionary catch limits for krill fisheries (in 1991 and 1992) and for *Electrona carlsbergii* (in 1993). It instituted, in 1992, the requirement for advance notification and data requirements prior to the development of a new fishery. Finally, in 1993, in the absence of sufficient data for the establishment of a management regime, it authorized the starting of an experimental fishery for the crab *Paralomis* spp.

## 4. UNCERTAINTY, ERROR AND RISK

### Uncertainty

In the definition section above, uncertainty has been defined as “*the condition of being uncertain. Doubt. Something uncertain. In statistics, the estimated amount or percentage by which an observed or calculated value may differ from the true value*” (Houghton Mifflin, 1992) or as “*the incompleteness of knowledge about the states or processes in nature*” (FAO, 1995)

The incompleteness of knowledge derives from: (a) ignorance (i.e., no data at all); (b) inaccuracy (i.e., potential bias in the data), and (c) variance (i.e., statistical confidence limits of the data). More specifically, statistical uncertainty (or variance) is related to stochasticity or error from various sources estimated using statistical methods. In its taxonomy of uncertainty, Wynne (1992) distinguishes between: (a) risk, when the system is basically known and outcomes can be assigned a probabilistic value; (b) uncertainty, when important parameters are known, but not the probability distributions; (c) ignorance: identified lack of knowledge of parameters and relations known to exist and for which are researchable, and (d) indeterminacy: when causal chains and processes are open and thus defy prediction. In decision theory, it is indeed customary to refer to “risk” and “uncertainty” when referring to situations where the outcome of a particular event is unknown, but to use “risk” when the probability of the future event is quantifiable (“knowable”) and “uncertainty” when such probability is unmeasurable (“unknowable”) (Luce and Raifa, 1957; Knight, 1965; Granger and Henrion, 1993). For a discussion on the use of the terms “risk” and “uncertainty” in fisheries, see Shotton, 1993.

In fisheries, the impact of the extracting activity on the resources and the environment needs to be accurately assessed and forecast in order to propose management options reducing to a minimum the possible risk of severe and costly or irreversible crisis<sup>41</sup>. However, the scientific understanding of the fisheries ecosystems and capacity to predict their future status in accurate quantitative terms is limited by the properties of fishery resources, their “fluid” nature and interconnectedness; the limited knowledge on genetic stock structure and impacts of fishing on resources genetics; the complexity of the interactions between species and gears and fisheries; the poor quality of the available fishery data; the limitation of scientific models and research funds, and the fluctuations of economic parameters. This leads to a degree of uncertainty in the scientific, technical, economic and political information upon which managers and industry leaders base decisions which may not always be wholly appropriate. There are numerous illustrations of this and the most recent relates to the management of the Northern Cod stock in the Northwest Atlantic where, following a collapse of the resources, it was necessary to establish a very expensive emergency welfare programme to support a stunted coastal fishery sector. A polemic has started as to whether research, management, industries, national decision-makers or foreign fleets, were responsible for the mistakes (Finlayson, 1994) and it appears that, as usual, the responsibilities are to be shared and the debate comes too late.

Scientists have repeatedly addressed the issue of uncertainty and the related risk, trying to find ways of identifying and quantifying better the levels of uncertainty in their statements as well as more robust (forgiving) management approaches (Walters and Hilborn, 1978 and 1987; Shepherd, 1991; Smith, Hunt and Rivard, 1993). Hilborn (1992) distinguishes between “noise”, “*uncertain states of nature*” and “*surprises*”. Noise includes the elements of uncertainty for which historical experience is available, such as year-to-year variations in weather, prices, administration decisions, political setup and directions, etc. and for which probabilities can be usually worked out. Uncertain states of nature refer to elements of uncertainty that have been explicitly identified but for which no experience is available and, therefore, no probabilities can be obtained. These include, for instance, major shifts in ecosystem structure, impact of global change, etc. Surprises refer to elements of the uncertainty that were never considered.

### Errors

When decision-makers take the necessary decisions, while both the present situation and the future outcomes are not fully understood, they implicitly accept a certain probability to make some mistake and make the assumption that this mistake will either have a negligible cost or would be easily corrected. Errors that might be made may affect: (a) the basic fishery data used for analysis such as on catches, effort, sizes landed, etc. (**measurement error**); (b) the estimation of populations and parameters derived

from such data (**estimation error**); (c) the understanding of relationships between the different elements of the fishery system and their interaction (**process errors**); (d) the way these relationships are mathematically represented (**model error**); (e) decisions that management takes on the basis of such information (**decision error**), and (f) the way in which management measures are implemented (**implementation error**). The errors affect both the biological, economic and social component of the fishery system. They may affect, for example, the decision-maker's expectation regarding fishermen's reaction to a proposed measure, as a consequence of errors in the explicit or unformulated behavioural model, used in forecasting such a likely reaction. Management errors can lead to two types of situations:

- a. **necessary management measures were not taken** and, as a result, the resource is damaged. There are short-term costs for the resource and, possibly, for the fishing community if not compensated by government subsidy. The biological impact is usually reversible if a corrective measure is applied, except perhaps in the case of major damage to the habitat. This type of error may also carry the risk of major economic consequences (e.g., in Peru or, more recently, on the Eastern Coast of Canada), and
- b. **unnecessary management measures were taken** and, as a result, fishing activities were curbed. The cost of the error is borne by the fishery. The biological effects of the measure, if any, would usually be positive and reversible soon after the measure is suppressed. The socio-economic impact may or may not be reversible (e.g., where there the error resulted in the loss of the market).

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<sup>11</sup> See a detailed discussion on fisheries impacts in the section on Management Implications

It must, therefore, be accepted that management decisions addressing actual or perceived risks will often be necessarily taken with less than complete and accurate information which may lead to errors. The question is: how to deal with the problem while minimizing the risk of error in the short and long-term? The responses are: (a) improving information to reduce the level of uncertainty, and (b) improving robustness of decision-making to a given level of uncertainty. Improving information and understanding to the point of reducing substantially the risk of error implies data and financial resources requirements which would often be unrealistic, particularly for high seas or highly unstable resources. As a consequence, while research efforts should be pursued, efforts have to be made to improve decision-making. Hilborn (1992) distinguishes two types of management response to uncertainty. The "*blind faith strategies*" are based on the best available evidence and applied without any explicit feed-back mechanism for improving them on the basis of performance. These strategies are also called "*open-loop strategies*" in optimal control theory. On the contrary, "*learning strategies*" explicitly provide for adaptation and improvement on the basis of more or less active learning gained from experience and surprises. Most management system "learn" but usually do so in a passive or reactive mode, at a very low pace and at the price of costly crises. Active learning would improve performance by accelerating strategy optimization through feed-back loops, and involves "*taking management action deliberately designed to be informative in addition to the explicit monitoring and regulation function of management*".

## Risk

In the section on definitions, risk has been described as "*the possibility of suffering harm or loss. A factor, thing, element, or course, involving uncertain danger, a hazard*". This is the general meaning intended in most environmental conventions. In more technical literature, risk refers to potential negative consequences (or undesirable outcomes) of a decision, quantitatively assessed and often referred to as "*expected loss*" or "*average forecasted loss*". Turner, O'Riordan and Kemo (1991) stress that "*risk is not merely an objective phenomenon but a hazard clothed with social meaning and judgement*".

No matter how much effort is made in research and through adaptive learning, a certain level of uncertainty will remain and, therefore, a certain level of risk when making decisions. A fishery management strategy aiming at no risk at all for the resource and the fishing communities would imply either research costs beyond the value of the fishery or no development at all (in the case of an extreme interpretation of the concept of precaution). Few Governments would find either of these two extreme options viable. Cautious management will therefore deal explicitly with risk and aim at a compromise and it should be clear that the higher the uncertainty and/or risk the greater will be the need for caution, particularly in the selection of management reference points (FAO, 1993a). Particular caution may be

necessary when resources and people are in a highly vulnerable situation as, for example, in small island countries where the erosion of natural resources may lead to the degradation of the coral reef ecosystem and, beyond a certain threshold, to the breakdown of development opportunities, life support and social order. An important and difficult task for cautious management authorities will be to develop a societal consensus about the nature and levels of the biological and societal impacts (and risks) that might be considered acceptable (tolerable) and to highlight and address the fundamental trade-off implications of the decisions, for different elements of the society and for both the short- and long-terms. Shrader-Frechette (1995) stress that the development of such a consensus would benefit from a science-based **comparative risk assessment**, to improve the objectivity of possible perceptions of risk and ranking of the various threats to the aquatic system and the fisheries. Such assessment would also help optimize the allocation of human and financial resources available for research, technology development and management. It must be accepted, however, that people are concerned not only with ecological risk, e.g., resource depletion, but also with inequities with regard to risk distribution, lack of concertation on acceptable risks, inadequate insurance or compensation for risk and other non-quantifiable aspects of risk which cannot be easily captured by comparative risk assessment and simple cost-benefit analyses.

Solutions often proposed to the problem of uncertainty tend to be simplistic (e.g. take the “lower bound” of the range) or oversimplistic (discontinue an activity, do not allow it to start), neglecting to compare the cost of this decision to the resulting benefits. Shane and Peterman (in preparation) stress that a precautionary measure “can only be justified if it improves management performance, i.e. if the benefit of reducing overfishing exceeds the cost of reducing harvests”. They suggest whether adjustments to take uncertainty into account are worthwhile and how large they should be.

## 5. IMPLICATIONS FOR FISHERIES RESEARCH

All expressions of the concept of precaution require that the “*lack of full scientific certainty shall be not used as a reason for postponing cost-effective measures to prevent environmental degradation*” (Principle 15 of the Rio Declaration). The requirement for precaution may, therefore, have been interpreted as requiring no input from fishery research. Gray (1990), for instance, stated that the “*acceptance of the precautionary principle has nothing to do with science*” and that it leads to arguments “*that do not have the required objectivity and statistical validity*”. In practice, however, and as proposed below, the effective implementation of precaution requires substantial support from fishery science, which needs to be adapted to the new requirements.

### 5.1 The “Best Scientific Evidence Available”

Scientific cooperation to develop a consensus on the state of nature and cause-effect relationships, appropriate models and the potential consequences of fishing has been the basis for cooperation in international fisheries management and the major “raison d’être” of ICES and it should continue to be one of the most neutral contributions to the resolution of conflict between nations and competing user groups. The Christiania Conference, in 1901, held just before the creation of the International Council for the Exploration of the Sea (ICES), endorsed the principle of scientific inquiry as a basis for rational exploitation of the sea. The same principle was also agreed at the International Conference on the Conservation of the Living Resources of the Sea, hosted by FAO (Rome, 1955). The 1982 Convention provided that the best scientific evidence shall be taken into account by the coastal State when designing and adopting management and conservation measures in exclusive economic zones (Article 61). For the high seas, this Convention provides that measures are designed on such scientific evidence (Article 119). More recently, the General Assembly Resolution 44/225 recognized, in its preamble, that “*any regulatory measures ... should take account of the best scientific evidence available*”. The 1982 Convention, however, does not define the evidence required in any quantitative manner.

Regarding the necessary amount of data, Cooke (1994) proposed that there be a relationship between the amount of data available and the level of catches allowed, indicating that a **minimum information requirement** be established, such as a recent estimate of the low end of the likely available biomass. This might sometimes be difficult to obtain without any fishing at all, although, for many resources, some rough estimate could be obtained through trawl or acoustic surveys. Cooke specifically proposed that “*permitted catches be lower when data are sparse than when data are plenty*” and stressed that this “*attaches a positive effective value to fisheries data and opens the way to data collection programmes*”

*financed by the users*".

Regarding the quality of the necessary data, the requirement that the evidence should be the best available implies that even poor evidence can be used in designing conservation measures provided it is recognized as the best available. The 1982 Convention does not provide any guidance on how to decide which is "*the best*" scientific information. Nor does it indicate how to operate in the absence of a scientific consensus, which it implicitly assumes, or when no scientific information is available at all. Although the 1982 Convention does not foresee that an existing fishery could be closed if not enough scientific information is available, it does not impose a great burden to be discharged before the necessary conservation measures can be taken (Burke, 1991). One would assume therefore that, in such a case, the spirit of the Convention is that the missing scientific information should be urgently collected but this does not preclude measures being taken in the meantime. The concept of precaution would ensure that action is not deferred *sine die*.

Concern has been expressed that the adoption of the precautionary approach could imply that scientific facts to back up management decisions were no longer considered necessary. There is an obvious risk that, by referring to the concept of precaution, scientific objectivity could be less rigorously applied and that international dialogue could be negatively affected. It is hardly debatable, however, that when scientific data are available together with a monitoring and management system, the basic requirement of the 1982 Convention should prevail and decisions should be taken on that basis. It should also be clear that, in order to satisfy the requirement of the 1982 Convention for the best scientific evidence available, the information must be scientific (i.e., obtained and presented in an objective, verifiable and systematic manner)<sup>12</sup> and it does need to be made "available" to all concerned. This, in the context of straddling and highly migratory resources, requires the existence of effective international scientific cooperation and the elimination of non-reporting and misreporting.

In the absence of a scientific consensus, emergency action should, therefore, only be justified when there is the risk of severe and irreversible effects and the concept of precaution may be seen as filling the gaps in the 1982 Convention, preventing the absence of scientific data or consensus from opening a loophole leading to "laissez-faire" management and development strategies with damaging or irreversible consequences. In an international fishery management body, a State willing to invoke the need for a precautionary approach in order to promote exceptionally stringent management measures, would have to convince the other parties that exceptional conditions are met for its application, i.e., that there is indeed a high risk of severe and irreversible damage. Science should, as far as possible, demonstrate the existence and extent of risk through risk analysis. If the available information was considered insufficient to demonstrate objectively the risk, forced application of the concept of precaution could become counter-productive. It is recognized, however, that in such a case, the management authority would have to face "perceived risks", in the absence of objectively demonstrated ones as is often the case with global societal risks and a consensus will have to be achieved through a largely political process involving as much consultation, participation and transparency in decision-making as possible.

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<sup>12</sup>This implies that the "traditional knowledge", the foundation and accuracy of which is largely unknown, be collected and assessed in order to eventually become part of the "scientific" basis for management

## 5.2 The Role of Statistical Methods

The 1982 Convention does not give any indications on how to determine which scientific evidence is the "best". General Assembly Resolution 44/225 required "*sound statistical analysis*" and this new terminology could be considered an attempt to clarify further the concept of "best evidence", equating it with "*statistically sound evidence*". The advantage of incorporating statistics into the concept is that it offers a way of using well-established mathematical techniques and tests to assess the probability that a certain action has had or may have a certain type of effect. It also forces scientists and decision-makers to recognize and measure explicitly the levels of uncertainty and the risks attached to these decisions. A research programme to monitor a fishery will use statistics to test, for instance, a null hypothesis (H<sub>0</sub>) that the ongoing fishing, or planned increase in fishing effort or change in fishing strategy, will not drive (or has an acceptably low probability of driving) the reproductive capacity of the species below some pre-determined safe threshold level. Scientists must still agree on which type of statistical methods to use (parametric, non-parametric, geostatistics) and which test is most appropriate for a particular problem.

Fisheries do not usually conform strictly to the requirements for unbiased application of conventional statistical methods and the reliability of many statistical tests might still be a matter for debate. As a consequence, obtaining a consensus on the “best statistical analysis” to use might not always be easy. In this respect, Peterman and M'Gonigle (1992) have stressed the potential contribution of Statistical Power Analysis to the issue. They remind us that “*statistical power is the probability that a given experiment or monitoring programme will detect a certain size of effect if it actually exists*”. Related to the example given above, it means that the statistical power measures the probability that the fishery monitoring programme will effectively detect the reduction of the reproductive capacity below the safe threshold level. Peterman and M'Gonigle suggest that the lower the statistical power of an experiment, the more precautionary the management response should be. In addition, it is clear that the best statistical methods can only lead to unreliable results if applied to unreliable data. It is, therefore, obvious that rigorous statistical methods should also be applied in data collection systems, particularly for collecting fisheries data.

### 5.3 The Burden of Proof

#### The “Proof”

The concept of “burden of proof” is often used in conventions and other texts referring to the precautionary approach. Considering the level of uncertainty which characterizes aquatic systems and socio-economic systems, it should be clear that absolute “proof” *stricto sensu* is hardly available. The concept, whether of an impact or of the absence of an impact, implies usually a level of certainty that is generally not reachable in fisheries research. In fisheries, the concept of “proof” could be related to the concept of “scientific evidence” established by the 1982 Convention on the Law of the Sea. The “burden of proof” could, therefore, be interpreted as the burden of providing the scientific evidence. It must be noted that just as there is no criteria in the 1982 Convention to define what information is “best”, the references to the “burden of proof” do not provide any guidance as to the “standard of proof” (i.e., the criteria by which to judge whether a “proof” is acceptable). In this respect, the concept of scientific evidence has the advantage to specify that the evidence must be scientific, i.e., obtained and presented in an objective, verifiable and systematic manner.

#### The Burden

In conventional fishery management, the “burden of proof”, i.e., the responsibility of providing the “best scientific evidence available” required by the 1982 Convention, has fallen traditionally on research and management institutions. It has been necessary for them to demonstrate, with the available data, that the stock could be (or had been) damaged, or that fisheries performance could be improved, before management measures could be imposed. In many instances, this approach has not been effective because fishery research lagged behind development and was not in a position to anticipate changes in techniques and practices. The principle of precautionary action provides a partial solution to this important and recurrent problem in requiring that action be taken even in the absence of “full scientific certainty” about the extent of the risk and the causal relationships. This is often associated with the proposal to “reverse the burden of proof”, i.e., reverse the responsibility to provide the necessary evidence, implying that:

- a. human actions should be assumed to be harmful to the resource unless proven otherwise, giving systematically to the resources the benefit of doubt, and
- b. the responsibility to prove that human action is harmless or that the impacts are acceptable<sup>13</sup> lies on those who intend to derive benefits from the ecosystem and not on the management authority.

Proposition (a) may be taken as implying that any fishing technique, which has not been formally authorized, in a given fishery or management area, or for a particular species, is forbidden, a principle enshrined in the FAO International Code of Conduct for Responsible Fisheries. The requirement is related to the notion that an environmental impact assessment should be presented before a new technology or practice is introduced into an ecosystem. It is also related to the concept of prior consent or prior authorization (discussed below Section 6.2). Proposition (b) above, might be more easily implemented in an international agreement, when the party bearing the burden would be a flag State with research capacity. This proposition could, sometimes, be more difficult or impossible to implement at national level when the fishery sector is informal, financially and technically weak or poorly organized as in many

developing countries coastal and small-scale fisheries, as well as in overfished fisheries where most of the initiative for corrective action (e.g., fisheries reconversion) starts from governmental initiative.

In most cases a simple Environment Impact Assessment (EIA) based on evidence available locally, or in similar fisheries elsewhere, could be sufficient to produce the evidence required (cf. Section 6.3). In the case of a completely new methodology or fishery (e.g., on a non-traditional species) a major difficulty in the implementation of the concept is that it will be difficult or impossible to forecast, with any degree of accuracy, the impact that the new fishery will have before it has started and some data have been collected. There is, therefore, a real risk that no new fishery could be developed because evidence of the absence of adverse impact cannot be given by those involved in the venture. A reasonable precautionary approach, in such a case, should lead to agreement for a pilot fishery large enough to collect data and build up the scientific evidence required, but small enough to ensure that no irreversible effect is likely<sup>14</sup> (cf. Section 6.4).

<sup>13</sup>For a discussion on “acceptable” impacts, see Section 7.4

An example of application of the concept to international fisheries can be found in the UN General Assembly Resolution 44/225. This resolution recommended a total ban on large-scale driftnet fishing in the absence of scientific consensus on the likely long-term impact, implying that the prohibition of a disputed fishing technique is in order until its acceptability has been demonstrated. It stated that “*such a measure will not be imposed in a region or, if implemented, can be lifted, should effective conservation and management measures be taken based upon statistically sound analysis to be jointly made by concerned parties...*”. This resolution reversed the conventional course of action, recommending immediate and drastic action (i.e., a total ban of the offending gear) on the basis of international concern assuming that driftnets had an undesirable impact on resources, until shown otherwise. It was agreed that such action could, in principle, be reversed should the joint scientific analysis lead to consensus on the effectiveness of management measures. The UNGA Resolution 44/225 gave no guidance or criteria on how to judge the quality or adequacy of the available evidence or the effectiveness of the management measures. The action was confirmed by General Assembly Resolution 46/215 of 20 December 1991, which called for action against this type of fishing on the basis that “*the international community [has] reviewed the best available scientific data and [has] failed to conclude that this practice has no adverse impact ... and that ... evidence has not demonstrated that the impact can be fully prevented*”. Another example of reversal of the burden of proof can be found in Council Regulation 345/92 of the European Economic Community (EEC), which regulated the use and the length of driftnets (limited to 2.5 km) in EEC waters. Article 9(a) granted a derogation until 31 December 1993 to some vessels for the use of longer gear, stating that “*The derogation shall expire on the above-mentioned date, unless the Council, acting by a qualified majority on a proposal from the Commission, decides to extend it in the light of scientific evidence showing the absence of any ecological risk linked thereto.*”

In addressing the issue of the burden of proof, the Technical Consultation on the Precautionary Approach to Capture Fisheries, held in Lysekil, Sweden, 6–13 June 1995 (FAO 1995), considered that adherence to the guidelines it produced, and particularly to the elements contained in its summary statement (Annex 6), would ensure and appropriate placement of the burden. In addition, the Technical Consultation recognized that the following elements would help clarifying further the issue:

- “*all fishing activities have environmental impacts and it is not appropriate to assume that these are negligible until proved otherwise;*
- *although the precautionary approach to fisheries may require cessation of fishing activities that have potentially serious adverse impacts, it does not imply that no fishing can take place until all potential impacts have been assessed and found to be negligible;*
- *the precautionary approach to fisheries requires that all fishing activities be subject to prior review and authorization; that a management plan be in place that clearly specifies management objectives and how impacts of fishing are to be assessed, monitored and addressed, and that specified interim management measures should apply to all fishing activities until such time as a management plan is in place, and*

- *the standard of proof to be used in decisions regarding authorization of fishing activities should be commensurate with the potential risk to the resource, while also taking into account the expected benefits of the activities*".

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<sup>14</sup>The question is more complicated in the case of introductions of species and GMOs where there is no guarantee that the introduced elements could be safely eradicated once introduced, even on a pilot phase, and there is opposition, in this case to the concept of pilot experiments REF

#### 5.4 Practical Guidelines

In order to support the effective implementation of a precautionary approach to fisheries management and development, fishery research needs to be adapted to the new requirements and should, in particular:

1. ensure that the "*lack of full scientific certainty shall be not used as a reason for postponing cost-effective measures to prevent environmental degradation*" (principle 15 of the Rio Declaration);
2. take into account the best scientific evidence available when designing and adopting management and conservation measures, in accordance with the provisions of the 1982 Convention;
3. require a minimum level of information to be made available for any fishery to start or continue;
4. make all necessary efforts to collect the required scientific information. For new fisheries, data collection should start with the fishery, including data on genetic and stock structures. For existing fisheries, data collection should start as soon as possible and any increase in effort should be preceded by a research or assessment programme;
5. ensure and require that information provided as a basis for management be "scientific" (i.e., obtained and presented in an objective, verifiable and systematic manner) and "available" to all concerned;
6. develop the effective international collaboration required to collect and jointly analyse the scientific information, particularly in the case of trans-boundary, highly migratory or high seas resources;
7. take measures aiming at eliminating or reducing non-reporting and misreporting, *inter alia*, by ensuring that the fishery sector cooperates in data collection and is fully informed of the results and uncertainty in the assessment;
8. relate the allowance in terms of TACs, catch quotas, number of licences, etc. to the amount and quality of the available data, ensuring that permitted catches be lower when data are sparse rather than when data are plenty;
9. generalize the use of standard statistical procedure to judge the quality of the scientific evidence available and ensure that such information and the analysis therein is statistically sound;
10. improve statistical methodologies for assessing the biological and economic parameters, testing their sensitivity to uncertainties in the data used and systematically estimating bias and precision in the derived parameters. The sensitivity of models to uncertainties in their parameters and functional structure should also be tested;
11. assess the statistical power of the tests and methodologies used for comparing the relative "soundness" of the information available. The lower the statistical power of the assessment, the more precautionary the management measures;
12. develop standards of proof and agreed protocols for Environmental Impact Assessment, pilot projects and experimental management projects;
13. promote multidisciplinary research, including: (a) social and environmental sciences, and (b) research on management institutions and decision-making processes, because the availability of biological evidence alone has not prevented overfishing;

14. expand the range of fishery models (e.g. bio-economic, multi-species, ecosystem and behavioural models), taking into account: (a) environmental effects; (b) species and technological interactions, and (c) fishing communities' social behaviour;
15. systematically analyse various possible management options using the whole range of available models, showing: (a) the likely direction and magnitude of the biological, social and economic consequences, and (b) the related levels of uncertainty and the potential costs of the proposed action (risk assessment), and no action (*status quo* scenarios);
16. systematically analyse and highlight the most pessimistic scenarios<sup>15</sup>, in situations of doubt and high risk of irreversible damage to the resource;
17. develop scientific guidelines and rules for multi-species and ecosystem management as a basis for agreement on acceptable degrees of disturbance;
18. agree on quantitative reference points and thresholds as well as on methods to establish them<sup>16</sup>;
19. systematically quantify the risk associated with scientific advice at the various reference levels selected;
20. improve understanding of environmental impact, raising the awareness of fishermen to the possible impact on fisheries potential resulting from fisheries as well as from environmental degradation caused by other industries, and
21. improve technological research on fishing gear and practices and their environmental impact.

<sup>15</sup>For instance, models which assume strong dependence of recruitment on adult stock size and predict rapid collapse when effort develops beyond a critical level (such as the Gulland-Schaefer production model or the Ricker stock-recruitment model), should be used rather than models assuming no relation between stock and recruitment and high resilience of stocks to high fishing rates (such as the Fox production model or the Beverton and Holt yield-per-recruit and stock-recruitment models)

<sup>16</sup>For instance, if it is agreed that it is safe to exploit a resource at two thirds of its MSY, it will be necessary to agree on the reference data set and on the conventional model on which to base the calculations because the true value of 2/3 MSY, and of its corresponding level of effort, will never be exactly known and may vary according to the model used

## 6. IMPLICATIONS FOR TECHNOLOGY DEVELOPMENT AND TRANSFER

Fishing affects targeted stocks and associated species, reducing their abundance and spawning potential, changing size structure and species dominance or composition and modifying the trophic chain. These effects are “normal” in the sense that they result from the need to exploit fish, and must be addressed and kept at acceptable levels by management (see Section 7.4). Fishing also has side effects on the flora and fauna living in the exploited environment (birds, turtles, marine mammals, benthic communities, coral reefs, seagrass beds) as well as on the bottom itself (trawls and dredges). In addition, “ghost fishing” by lost or discarded driftnets or pots has been suspected and, in some instances, demonstrated. It is not by chance that the very first discussions, in FAO, on the concepts of responsible fisheries, focused on responsible “fishing”, i.e., on responsible fishing gear and technology, before broadening the concept to cover also management, research, fish processing and trade and aquaculture.

An example of international concern is given by the reaction to the rapid expansion of the large-scale pelagic driftnet fishing (see Section 5.3). The problem has been apparently “solved” by a moratorium on all driftnets of more than 2.5 km in length, through heated debate and political wrestling, but Miles (1992) indicated that the application of the same flawed process and criteria to EEZ fisheries would lead to closing down of many of them<sup>17</sup>. Another example is the concern expressed regarding impacts on cetaceans off Ireland and Denmark (Schoon, 1994) by bottom gillnets of up to 7 miles long, used in coastal waters, for the last 15 years to catch bottom fish such as turbot, plaice and cod.

The following sections, which draw from the work of Boutet (1995), will address various ways in which the problem could be addressed in the context of a precautionary approach to fisheries, i.e., through the adoption of responsible fishery technology and practices, the establishment of technology lists, the

adoption of Prior Informed Consent and Prior Consultation Procedures, the requirement for Environmental Impact Assessment and the implementation of pilot or experimental development projects.

### 6.1 Classification of Responsible Fishery Technology

In international environmental law, the precautionary principle is often associated with the requirement to use the “*best available technology*”, an obvious parallel to “*best scientific evidence available*”. This wording has sometimes been interpreted as requiring the technology which has the smallest environmental impact, regardless of the short-term socio-economic costs. This interpretation has, however, been questioned on the basis that such technology might not always be affordable by all countries and, in particular, by developing countries (GESAMP, 1986). General Assembly Resolution 44/228 of 22 December 1989 on UNCED referred instead to “*environmentally sound technology*”, stressing the need for socio-economic constraints to be taken into account. The wording does not pretend to limit the choice to a single “best” or soundest technology and does not preclude, therefore, the use of many “sound” technologies together, depending on the socio-economic context of their introduction. The Cancun Declaration (Mexico, 1992) provides that “*States should promote the development and use of selective fishing gear and practices that minimize waste of catch of target species and minimize by-catch of non-target species*”, focusing on only one of the challenges of responsible fishing.

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<sup>17</sup>As a matter of fact, arguments similar to those used to request the closure of the large-scale pelagic driftnet fisheries were invoked to force the closure of the small-scale bottom gillnet fishery in California, showing both the potential and the danger of media-driven campaigns against fishing techniques

The development of typologies and classifications is usually the basis of a process of normalization or standardization of technology in view of its regulation. The basis of a classification in fisheries could be horizontal or vertical. A **vertical classification** would involve classifying gears according to their priorities with the aim to regulate their use. An **horizontal classification** would classify ecosystems and species assemblages, or parts of them, as a basis for the regulation of their use. In practice, both classifications would be required in order to develop flexible regulations taking into account the diversity of gears and ecological situations (and even socio-economic situations). The use of lists to classify chemical substances, techniques, species<sup>18</sup>, weapons, etc. is fairly frequent. In environmental law, technologies are often catalogued on separate lists, the “colour” of which reflects the perceived degree of environmental friendliness. For instance:

“Black” or “Red” lists would identify technologies for which the likelihood of producing unacceptable impacts in most or all of their application.

“Grey” and “Orange” lists would identify technologies susceptible to produce potentially acceptable impacts in most of their applications but which should be used under some conditions and require a specific impact assessment before being introduced.

“White” or “Green” lists would identify those technologies believed to be harmless or producing only acceptable levels of impact and which could be introduced without a particular precautionary procedure.

The task is not easy. One problem is in deciding whether one would catalogue gear, aid to navigation and detection (which increase fishing power) or fishing practice, or both. Another problem is to decide on the objective criteria for the classification. If responsible fisheries is the objective, gear should be classified according to related criteria (referring for instance to selectivity and by-catch rate; impact on bottom, navigation and environment in general; relative energy consumption; biodegradability; difficulty to control and monitor, etc.). For fishing gear, the classification of a technology will depend, *inter alia*, on the type of habitat. Heavy trawls may be considered “green” on deep muddy grounds but “red” in shallow estuaries and coastal zones or coral reefs. Artificial reefs might be on a grey or orange list because their impact on coastal habitat is long-lasting and, if made of derelict material, they may contaminate the environment.

This list approach has been indirectly applied to fisheries by reference to the Convention on the Conservation of European Wildlife and Natural Habitats (Bern, 1979). The Convention gives, in its Annex IV, a list of non-selective gear to be banned, which includes all nets. Although it had been designed for

migratory birds, the list has been referred to, in Italy, in connection with the banning of large-scale pelagic driftnet fishery. The importance of nets in fisheries and their contribution to the livelihood of small-scale fishermen and indigenous people illustrates the need for careful consideration before referring to lists contained in non-fishery agreements and before elaborating specific lists for fishery technology.

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<sup>18</sup>CITES, has recorded species in lists, according to their status, and specific measures correspond to each list

Considering that, in fisheries, the concept of responsible fishing is well defined and that a Code of Conduct for Responsible Fishing has been prepared and will be adopted, it may be of value to refer to the requirement for “**Responsible Fishery Technology**” (including capture and post-capture technology) as defined in the Code and its different guidelines. Responsible technology will have to be used in all areas of fisheries, including capture, land-based or sea-based processing and distribution. As a consequence, although some general guidelines can be given, based on known characteristics of types of resources and technology, the most responsible mix of technologies to be used in a particular fishery will have to be agreed on a case-by-case basis with explicit reference to the agreed management reference points and acceptable levels of impact agreed for that fishery. The implication is that technology lists could not be for general application and would have to be established locally, at regional and national level.

One must recognize, however, that lists of prohibited gears and practices exists in most national legislations and that these are frequently ignored. Examples are: fishing with dynamite or poison, fishing with scuba-diving equipment, use of obstructive shaffers on trawls cod-ends, use of driftnets, of small-meshed beach-seines, etc. The efficiency of technology classifications and list of authorized gears is therefore strongly dependant on the capacity of monitoring and enforcement.

Care would also have to be taken to ensure that the use of gear lists does not lead to freezing the evolution of technology and that mechanisms exist (including the use of pilot projects) to allow this evolution while keeping the overall fishing mortality under control. Fitzpatrick (1995) also stresses that, in many instances, the technology necessary for fishermen safety, also improves the fishermen's ability to locate and catch fish and, therefore, contributes to overfishing. Such technology, often required by international conventions on safety on board of fishing vessels cannot however, in most instances, be removed from the vessel. The implication is that fleet size may have to be reduced when fishermen safety is improved, in order to stabilize fishing mortalities.

Moreover, a “better” technology might be theoretically available on the market but in effect not accessible to some countries because of its cost or its sophistication and, in many instances, the generalization of the use of responsible technology will require an improvement in international cooperation in technology transfer, as underscored in Agenda 21<sup>19</sup>.

## 6.2 Prior Informed Consent (PIC) and Prior Consultation Procedures (PCPs)

For dangerous polluting industries, reference has often been made to Prior Informed Consent (PIC) and Prior Consultation Procedures (PCPs). The practical significance of the procedures involved is that, before introducing a dangerous technology or any new technology in a controlled or sensitive area, the proponent must produce a substantial amount of information about the technology to be introduced and its potential impact and, eventually, obtain the consent of the State or the managing authorities. If the introduction is agreed, a number of specific measures are usually foreseen such as limiting the scale of the initial project, special monitoring and reporting requirements, etc.

These practices are rare in fisheries. An example can be found in the ICES/EIFAC Code of Practice to Reduce the Risk of Adverse Effects Arising from Introduction and Transfers of Marine Species including the Release of Genetically Modified Organisms (Turner, 1988) which has been adopted by the International Council for the Exploration of the Sea (ICES) and the European Inland Fishery and Advisory Commission (EIFAC) of FAO. The ICES/EIFAC Code foresees that “*Member countries contemplating any new introduction should be requested to present to the Council, at an early stage, information on the species, stage in the life cycle, area of origin, proposed plan of introduction and objectives, with such information on its habitat, epifauna, associated organisms, potential competitors with species in the new environment, genetic implications, etc., as is available. The Council should then consider the possible outcome of the introduction, and offer advice on the acceptability of the choice.*”

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<sup>19</sup>The successful efforts made by the Inter-American Tropical Tuna Commission in the Eastern Central Pacific area to train crews of the region in effectively avoiding by-catches of dolphins through the use of appropriate technology, is a good example of what can be achieved in this respect

The European Directive 90–220 on dissemination of genetically modified organisms intends to frame the development of biotechnologies in Europe and address the “genetic risk” potentially represented by these technologies, which are of great potential interest also for fisheries (EEC, 1990). Hermitte and Noiville (1993) stress the precautionary character of the Directive, which applies the precautionary principle, not to a single product (chemical substance), or to a specific problem (ozone hole), but to a whole new mode of production, even before any incident has been registered. The Directive recognizes that a new production mode carries with it significant social (societal) changes and potential risks and, contrary to what has happened in industrial development since the 18th century, attempts to foresee and limit the negative impacts of this new technology. It reverses the traditional industrial culture and freedom to undertake, produce and sell as long as a danger has not been proven.

In exclusive economic zone fisheries, where effective effort controls have been established, there is often a requirement to obtain prior consent from the management authority before a new vessel is ordered or even before the banks are approached for a loan for this purpose. A similar approach might be used for some particularly efficient and potentially dangerous technologies and/or for particularly vulnerable resources or fragile ecosystems when severe, irreversible effects are possible. In a regional or international context, Prior Informed Consent of the competent regional management organization or arrangement would be required before introducing a new methodology. The procedure would be better accepted if the new technology was patented, limiting the risk that the benefits to the “discoverer” could be jeopardized in the process. In such an international or regional mechanism, a State willing to introduce a new technique would be requested to present a report, comparable to an **Environmental Impact Assessment** (see section on EIA below). Such an assessment would address potential effects on the target species, on associated species which might be targets for other fisheries in the area or food items for such target species and on the environment.

It has been mentioned that an overly stringent application of the precautionary principle might be contrary to the willingness and need to ensure technological progress. Hermitte and Noiville (1993), however, indicate that the prior authorization process, the resulting direct involvement of industry in promotion of data collection and research, and the transparency resulting from the public information and participation would, on the contrary, contribute to dissipate the fears towards technology and, indeed, limit irrational reactions to innovative technologies. One major benefit from a prior authorization process, beyond the limitations of risk, would be in the mandatory delivery, by industry, its scientists and experts, and at industry's expense, of information on ecosystem functioning and technological impacts and of the resulting “memory” that Hermitte and Noiville call “*scientific jurisprudence*”. These authors state that the acceptance of the procedures by scientists and industry would be a sign of good faith given to a more and more suspicious, sceptical and unforgiving society and that these procedures may in fact be the only way to avoid irrational bans on research and development avenues and the development of “wild” experiments.

The administrative burden imposed by prior authorization procedures could be overwhelming and, at least in fisheries, there would be obvious advantages if the procedure could remain exceptional. The scope of application (and unnecessary burden) of the measure could be reduced using the concepts of “*familiarity*” and “*previously acquired experience*” (Hermitte and Noiville, 1993) or referring to “*evidentiary presumptions*” (Bodansky, 1991) to take into account available knowledge obtained elsewhere in similar or sufficiently comparable conditions, to reduce the amount of uncertainty and presumption of risk. In order to avoid repeating the impact assessment of similar technologies on similar species and ecosystems, it would be useful to develop a general typology of fishery technologies, gears and practices and their potential impact, leading to a general impact-oriented classification of gear/species/ecosystems interactions, to be used as a guide, by management authorities, at regional or national level, to develop local gear and technology classifications based on local characteristics of the resources and the environment<sup>20</sup>(see also Section 6.1). The special monitoring and reporting procedures could then be limited to new technology/species/ecosystem combinations and to existing technologies recognized as unacceptable in the long term and for which phasing out might have been decided (and for which interim

reports could be requested during the phasing out period).

In the case of high seas areas not covered by any specific international agreement, there would be no competent authority to which the request for prior consent could be made. In addition, there would also be no monitoring or enforcement system in place, making it impossible to detect the introduction of harmful techniques and to measure impact. This is a case where the legal responsibilities of the flag States would need to be clearly determined, especially if the flag State registers all vessels authorized to fish in the high seas as provided for in the 1993 Agreement on the Promotion of Compliance with Conservation and Management Measures by Fishing Vessels in the High Seas.

### 6.3 Environmental Impact Assessment (EIA)

Impact assessment is a major instrument of environmental law, which conditions the beginning of an activity or the deployment of a technology to an assessment of the consequences on the environment. Generally, an EIA provides not only an assessment of the impacts but also proposals aiming at mitigating the impact if necessary. As it would not be practical to condition all fishing activities to EIA it might be necessary to define the conditions under which an EIA might be necessary. This could be done: (a) through preliminary studies, on a case-by-case basis, and (b) through an overall identification and cataloguing of the technology/resource combination requiring such approach (see above).

The EIA seems to have been rarely used in fisheries (except possibly in aquaculture and for species introductions). If generally adopted, the EIA procedure would be part of the legal procedure leading to the granting of a fishing right or license for a particular fishing activity by an authority with the legal competence required to authorize or deny such a right. This authority would define the requirements and specifications of the EIA. An EIA procedure would require the establishment of a system to control the conditions of the assessment, its relevance and objectivity. This implies that:

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<sup>20</sup>This comparative approach is not really new in fisheries, but the process of fisheries law development, in developing countries, to which FAO contributes actively, involves already a lot of transfer of experience from area to area. The approach could however be formalized and more systematically applied

- the proponent would be allowed to appeal if the procedure imposed is not in line with the established specifications, or if the decision of the authority does not appear in line with the conclusions of the EIA;
- the authority, which would decide on the acceptability or otherwise of a new technology or practice, would have to be able to oversee the whole EIA process to guarantee to all users the quality and reliability of the assessment;
- the procedure should be transparent to all users who receive information on request and on the EIA process. It might be necessary to organize a debate on the issue to have all views. It would be essential to ensure that the authority keeps the necessary prerogative to ultimately decide;
- the other users (and in particular the users of a different technology on the same resource) should have the possibility to appeal on a decision if it appears to be in contradiction with the conclusions of the EIA, and
- as a last resort, recourse to tribunals (in EEZs), or to dispute settlement mechanisms (in international fisheries), should always be possible if one of the parties in the EIA process believes that its interests are being unduly affected.

There should be some relation between the cost of the EIA and the cost of the potential negative consequences of the proposed development and its potential benefits. There should also be some relation between the cost of the foreseen investment and the cost of the EIA. In some instances, participation by the authority or State in the EIA might be worthwhile and equitable, particularly when the technology being considered has general potential application. State participation in the EIA would certainly be necessary for coastal and small-scale fisheries, particularly in developing countries (see Section 5.3 on the burden of proof).

### 6.4 Pilot Projects

Despite their relatively smaller size, fishery pilot projects can be considered a s“full-scale” experimentations, only limited in duration and geographical extension. They could be a useful way to implement a precautionary approach to fishery development provided that specific rules are adopted for their conduct, data collection, and analysis. They have the advantage of being less theoretical than EIAs, and therefore more convincing, while limiting the probability of inadvertently damaging the resource, and allowing a more realistic approach to socio-economic impacts than otherwise possible. Allowing for a phased approach to application of technology at a larger scale, they represent a practical tool for implementation of a “*stepwise decision making*” and “*progressive deconfinement*” of a new technology, advisable to situations of high uncertainty (Hourcade, 1994). Pilot projects have been extensively used in the past, including in FAO fishery development programmes, to demonstrate the technical and economic feasibility of a development or management measures. An experimental fishery has been developed for instance on *Paralomis spinosissima* crab fishery in the Antarctic (CCAMLR area) (Watters, 1993) and the concept is one with which industry is generally familiar. A basic assumption behind the concept of pilot projects is that the large-scale implementation of the technology is a simple extrapolation of the pilot scale. This may not always be the case and a significant involvement of basic and applied sciences is necessary for improving the protocol and specification of traditional pilot projects allowing them to become also useful and reliable elements of a precautionary fishery development policy. Another implicit assumption is that all traces of the experiment can be eliminated if the pilot-scale project indicates that the tested approach or technology results in unacceptable consequences. This may not always be true and explains the opposition of some scientists to the concept, particularly in cases where the consequences detected in the pilot project are not reversible (as may be the case with introduction of GMOs). The implication is that only part of the cost of a pilot project could be considered as additional charge required for precaution. Most of it could, in many cases, be considered as normal pre-investment expenses.

The management authority should have enough latitude to impose, to a proponent of a new technology or new fishery, the type of experimentation considered most appropriate. A contractual agreement between the authority and the proponent would improve the probability that the rights of the “discoverer” of a technology or a stock are respected.

The pilot project goes beyond the EIA in the sense that real development will occur, even though at small scale. In some cases, the authority itself could be (and often has been, in the past) the promoter of the initiative. In some cases, both an EIA and a pilot project might be required and executed sequentially when the EIA is not totally negative but some aspects may not be addressed without experimentation.

### 6.5 Practical Guidelines

A precautionary approach to fisheries should ensure the use of responsible fishery technology in all sub-sectors, including capture, land-based or sea-based processing and distribution and ensure that:

1. technology, formally recognized as “responsible”, is compatible with long-term resource conservation, minimized by-catch of endangered species and discards, as well as other non-acceptable impact;
2. the mix of responsible technologies (and practices), to be used in a particular fishery, is agreed on a case-by-case basis with explicit reference to the management reference points and acceptable levels of impact agreed for that fishery. This mix should be compatible both with local conditions for sustainability and socio-economic conditions of the operators;
3. recommended technologies are easily available on the market and affordable for developing countries and that their transfer is promoted through international cooperation;
4. criteria for the selection or determination of responsible technology include local biological and environmental conditions and socio-economic constraints;
5. selection or determination of responsible technology is based on an objective assessment of the actual or likely impacts and of the risks involved, for the resources, associated species and, in the long term, for the fishing community, taking into account the type of resources, ecosystem characteristics, and habitat;

6. technological requirements are defined with a view to maintaining (or reducing) the accidental effects of capture and post-capture fishery activities within pre-defined acceptable (tolerable) levels, allowing general application by all countries or parties involved;
7. States and management organizations and mechanisms undertake to list the fishery technology used or potentially usable, the “colour” of which would reflect the perceived degree of environmental friendliness;
8. before introducing a new technology in a controlled or sensitive area, on a low-resilience or particularly vulnerable species, the proponent is asked to produce a sufficient amount of information about the technology to be introduced and its potential impact and that the prior consent of the other users is required when appropriate;
9. if the introduction of a new technology is agreed, a number of specific measures should be foreseen such as limiting the scale of the initial project, special monitoring and reporting requirements, etc.;
10. when adopting PIC or PCPs, States or regional management, organization or arrangements should ensure that the potential rights (interests) of the inventor of the resource or of the technology can be protected;
11. request for the introduction of new techniques be supported by documentation amounting to an EIA identifying potential effects on the target species, and on associated species, which might be targets for other fisheries in the area or food items for such target species;
12. PIC and PCPs procedures should remain exceptional in order to reduce the administrative burden imposed to fishermen, and
13. special monitoring and reporting procedures should also be used for activities recognized as unacceptable in the long term and for which phasing out has been decided. Interim reports could be requested during the phasing out period.



**Annex 708**

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# Impacts of Fishing on Tropical Reef Ecosystems

Fishing is the most widespread human exploitative activity on tropical reefs and the survival of many coastal societies is dependent on the productivity of their fisheries. Existing fishery management strategies focus primarily on target fish populations, but they may not be appropriate when fishing initiates shifts in the reef ecosystem. Such shifts may not be reversible, and can impair the processes which guarantee future fish production. We describe a number of alternative approaches to management and consider which of these may help to maximize yield whilst minimizing the probability of unwanted ecosystem shifts. One of these approaches is already adopted by a number of island societies but, ironically, it has proved to be incompatible with many fishery development programs.

## INTRODUCTION

Burgeoning human populations with inherent needs for food and income have driven the development and expansion of fisheries on tropical coasts. It is not surprising, therefore, that fishing is the most widespread human exploitative activity on coral reefs and that the survival of many coastal people is dependent on the continued productivity of their fisheries.

Successful fishing leads to a reduction in the abundance, biomass and mean size of species targeted by the fishery (1–12). Such fishing effects are well documented and, in some situations, they have been shown to be reversible following the cessation of fishing (1, 2, 11, 13–15). However, there is increasing evidence that fishing can have profound impacts on the structure and function of reef ecosystems (16–20). These impacts may not be reversible within the short time-scales (years rather than decades) which matter to those who rely on the productivity of their fisheries and may impair the processes which guarantee future fish production (16–19). Fishing impacts the reef ecosystem at all stages of fishery development (Fig. 1). More intensive fishing is generally correlated with more substantial changes in ecosystem function and, ironically, it is these changes which may lead to the greatest loss of fish production and show least evidence for being reversible.

Existing approaches to fisheries management are based solely on the management of target fishes. These have often proved adequate with temperate fish populations, but recent evidence for the effects of fishing on reefs suggests that managers cannot afford to ignore the tight interactions between fishes and their ecosystems (16–18). In this article, we consider the ways in which fishing may lead to shifts in ecosystem function, the extent to which shifts are preventable or reversible and the means by which they might be manipulated in order to achieve specific management aims.

## DIRECT IMPACTS

Habitat destructive fishing techniques have direct impacts on the reef ecosystem. Many netting and trapping techniques will damage corals, whilst explosive and chemical fishing techniques damage the substrate and have additional side-effects. The lat-

ter methods are unselective and are often adopted by fishers who are desperate to meet immediate requirements for food or income (20–26).

Kayakas and muro-ami drive netting techniques, bottom-set gillnets and trapping have all led to habitat destruction in different regions (20, 21, 27–29). Muro-ami is a form of drive-in net fishery where fishers use scarelines to drive fish into a net. Muro-ami operations can involve 25–300 people, each carrying a weighted scare-line consisting of a length of rope with plastic scarers terminating in a 3 to 6 kg stone or chain weight. The scareline is lifted and can cause damage as the weight is dropped back onto the reef to drive fishes towards a bag net. Kayakas fishermen drive the fish towards the net by beating the water with palm fronds and other drive-netters may drag a scareline with palm fronds. Divers may overturn boulders as they proceed and then spear the surrounded fish (27). Bottom gillnets are set over coral, and the weighted lines at the base of the net often tangle with branching corals. As the nets are retrieved, the corals are broken (21). Traditional fish traps may be set by divers and covered with coral. Modern steel fish traps are heavier or larger than conventional types and may be deployed from large vessels with power hauling blocks. As a result they are often dragged across coral as they are lifted (28).

Blast fishing is practiced in many regions (22). Commercially produced explosives from mines or armaments are frequently used, but mixes of charcoal and oxidizing agents are a common alternative. Completed bombs are dropped into the water after igniting a short delay fuse. Given that the charges are deployed in different locations, detonate at different depths and contain different types and amounts of explosives, it is hard to quantify

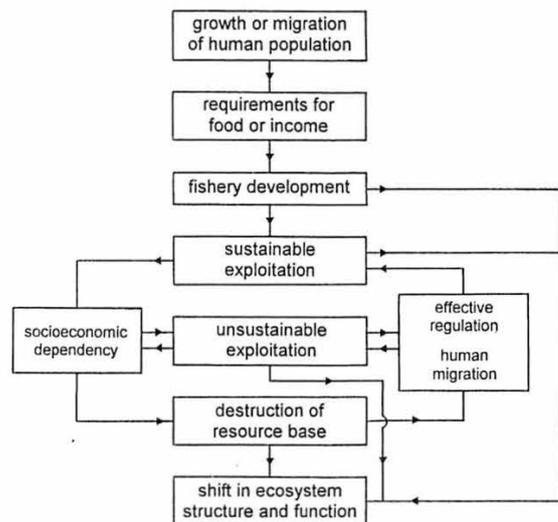


Figure 1. A flow diagram representing the factors driving the development of a reef fishery and the stages at which shifts in ecosystem structure and function can occur.

their impact. However, repeated explosive fishing will reduce actively growing reef to dead coral rubble. For example, a bottle bomb containing around 0.5 kg of explosive, and detonating at or near the bottom, will shatter all coral within a radius of 1.15 m, and a gallon-sized drum will have the same effect within a radius of 5 m (22). The 'kill-line' will be much further away and both larval fish and invertebrates are killed by the blast. Much of the kill is wasted since fish and invertebrates will be eaten by other fish, invertebrates and birds before the collection begins and the fishers often collect only a small proportion of the remaining fish. Explosive fishing of this type impacts the reef ecosystem at all levels and recovery from damage will take many years. Habitat degradation can lead to redistribution of exploitable fish biomass and reduce the total productivity of the fishery. Since the abundance of fish supported by reefs is determined by factors such as coral cover, reef size, height and topographic complexity (30), habitat destruction can reduce the potential fish production from reefs.

Poisons derived from plants are widely used to narcotize fish. In general, they are used in relatively small quantities and have little impact outside the immediate fishing area. However, there is concern that the increasing use of sodium cyanide may have long-term impacts on reefs and their fauna (23). Sodium cyanide is sometimes dispersed from a barrel in the form of a slurry containing fish and shrimp 'chum' to attract target fishes (20). Although very striking damage results from explosive and chemical fishing, damage is localized on a global scale. It will have severe effects on the yields of those fishing communities which use the damaged areas (22, 31) but it is unlikely to be a general threat to reef ecosystems.

**INDIRECT IMPACTS**

In many reef fisheries, decreases in the abundance or biomass of piscivorous or carnivorous species have proved to be the most readily detectable effects of fishing pressure. These species are highest in the food chain and typically favored for consumption or sale (11). During the development of a reef fishery there is frequently a change in catch composition. Initially, catches consist of favored target species from high trophic levels, but latterly, smaller species from lower trophic levels have begun to dominate. For example, as exploitation has increased on Jamaican fishing grounds, the dominant trapped groups have shifted from grunts (haemulids) and surgeon fish (acanthurids) to squirrel fish (holocentrids), or from trigger fish to soldier fish (holocentrids) (8). In Papua New Guinea, catches in lightly exploited areas consisted of large herbivores (surgeon fish), predatory groupers and snappers. In moderately fished locations, small emperors (lethrinids) began to dominate catches and in heavily exploited locations the catches were characterized by an increasing proportion of small rabbitfish (siganids) (32). The selective removal of piscivorous and carnivorous species must lead to changes in ecosystem function. However, over the long term it is difficult to identify which changes are the result of the intensity and selectivity of fishing, and which are the indirect result of changes in interspecific relationships or in growth and recruitment rates.

Sea-urchins and fishes are the dominant herbivores in reef ecosystems and their interrelationships appear to be readily affected by fishing. Urchin eating fishes are closely reef-associated and are frequently the targets or by-catch of fisheries (33). Few other species consume urchins. Interactions between urchins and fish have been investigated in most detail on Kenyan and Caribbean reefs (9, 16, 17, 34-39). The ways in which fishing may mediate relationships between algae, urchins and fish are summarized in Figure 2. The persistence of herbivorous fishes on reefs appears to depend on the presence of sea-urchin predators- which maintain sea urchin populations at a level where their



Fusiliers (Caesionidae) remain uncollected on the sea-bed off Sri-Lanka following explosive fishing. Photo: L. Deeley.

low gross production makes them inefficient competitors with herbivorous fishes (38). Similarly, starfish predators may reduce densities of juvenile Crown-of-Thorns starfish and correlative evidence suggests that fishing the predators of juvenile starfish may lead to periods of increased starfish recruitment. Higher survival of the juvenile starfish could lead to outbreaks of adults in subsequent years (40).

The relative dominance of herbivorous fishes and invertebrates will have profound influences on the rates of reef accretion and bioerosion (18, 34, 39-41). The grazing activities of herbivorous fishes may clear space for coral settlement and enhance the sur-

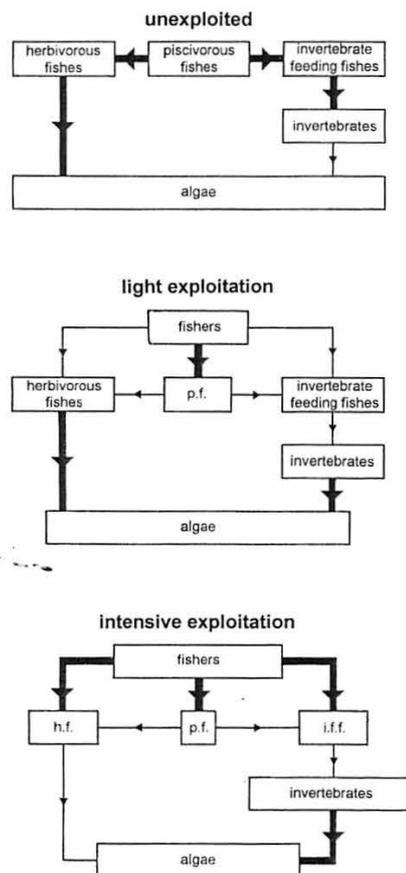


Figure 2. Diagrams summarizing the changing relationships between fishes, invertebrates and algae in response to fishing. The size of boxes represents the relative biomass of each group, and the thickness of the arrow the importance of the pathway.

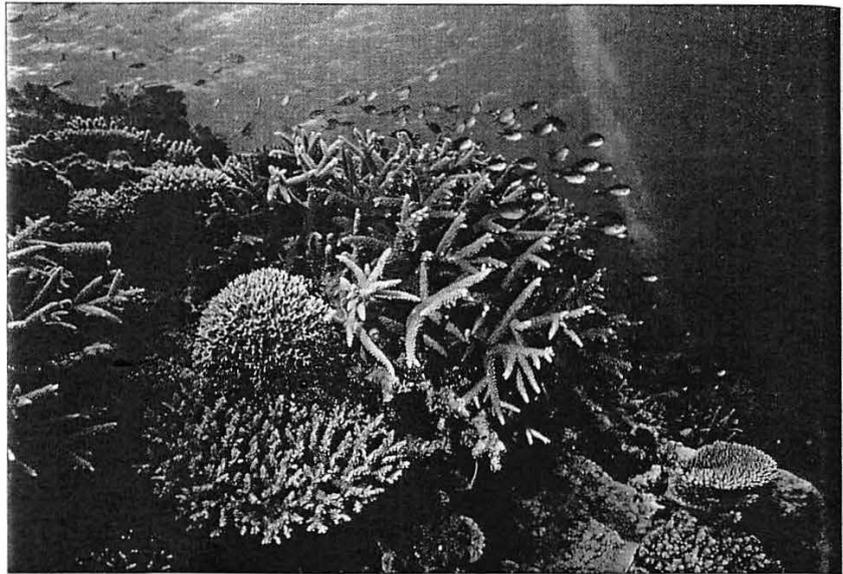
vival and growth of young coral colonies (42). Conversely, urchin grazing leads to bioerosion which may exceed the rate of carbonate accretion. The significance of urchin grazing was illustrated following a major die-off of urchins in the Caribbean, when carbonate began to accrete in some (less intensively fished) areas previously subject to bioerosion (36). If urchin populations are established, they can reduce algal biomass so markedly that they out-compete herbivorous fishes (38). Whilst grazing, the area-specific rates of bioerosion due to urchins are higher than those of carbonate eroding fishes such as parrotfish, and urchins have been implicated in limiting reef growth in a number of locations (34, 35). Similarly, outbreaks of Crown-of-Thorns starfish will cause localized bioerosion (43, 44). Bioerosion will result in a loss of structural complexity, leading to reductions in fish biomass and disrupting the ecological processes responsible for fish production.

The ecological release of invertebrates following the capture of their predators can also affect diversity. Guilds of urchins on Kenyan reefs may have evolved to avoid competition and predation by utilizing different sized burrows or crevice locations provided by the reefs' variable topography. Removal of urchin predators may allow them to compete and lead to the competitive exclusion of weaker species (39). Thus although the removal of triggerfish (balistids) through fishing appears to lead to increases in the biomass of some species of sea-urchin there is a decrease in their diversity and a single urchin species has an increasingly important functional role.

The shift towards a herbivore community which was dominated by one species of urchin rather than many species of fishes and urchins (36) ultimately led to degradation of the reef ecosystem in intensively fished regions of the Caribbean. The mass mortality of the keystone urchin species, coupled with sustained fishing pressure, removed all significant herbivores from the ecosystem. As a result there has been a sustained bloom of benthic algae around Jamaica from 1983 to the present (17). The algae have prevented coral recruitment and algal overgrowth is killing existing corals.

#### REVERSIBILITY OF ECOSYSTEM SHIFTS

The existing state of a reef ecosystem may result from a long evolutionary process or simply be one of a series of potential states attained by chance. As a consequence, a change in the ecosystem which coincides with a change in fishing intensity may represent a shift to a new state, return to a former state, or be part of a recurring cycle with a lower frequency than the period of monitoring (6). In considering the significance of shifts it must be recognized that reef-fishery science is in its infancy and that most 'long-term' monitoring programs have been rather shorter than the life span of a large grouper (6). Accordingly, there has been a tendency to regard the first observations of change in the reef ecosystem as irrevocable. For example, reports of ecosystem shifts leading to the increased dominance of Crown-of-Thorns starfish have, to date, often exaggerated the potential long-term impact of the event, and many are already proving to be revers-



A well-developed windward reef tract in Fiji. There is no indication that bioerosion exceeds the rate of reef accretion and herbivorous fishes dominate the reef-fish biomass. Urchins and Crown-of-Thorns starfish are almost absent. Photo: S. Jennings.

ible (44). Whilst such fluctuations may be regarded as 'noise' over evolutionary time-scales, short-term shifts which result in the loss of fish production are still critical to societies dependent on the fishery.

The potential of the reef ecosystem to shift into any one of a number of states does not necessarily equate with more likelihood of fishery collapse, since a range of states dominated by different groups of fishes may all continue to yield adequate protein. Indeed, it could be argued that many states in tropical multispecies subsistence fisheries are of less socioeconomic significance than those in temperate commercial fisheries, because the tastes of the fishers are often more catholic and a wider range of species is freely used. Value loss in a commercial fishery could have vital consequences for the fishers and all those involved in the service and processing industries associated with the fishery. This is reflected in the attitudes of Jamaican fishers who refer to the species which dominate their heavily exploited fisheries as 'trash fish' (8). However, for villagers who are catching their daily food, the value is often irrelevant, and they choose to eat species similar to those which others treat as 'trash'. 'Trash' species from low trophic groups still provide a rich source of protein. Thus, Fijian fishers report cyclical changes in the value of their fisheries in the past 100 years, but they do not recount periods when yield was inadequate to meet food requirements (45). Shifts from fish dominated to invertebrate dominated communities can, however, be deleterious in any fishery. This is not only due to the reduction in fish protein production, but also to the poor food value or unpalatability of the invertebrate species which may proliferate.

For both fishers and ecologists, there is great concern that deleterious shifts will not be reversible within the relatively short time scales (years rather than decades or centuries) that matter to those who rely on the productivity of their fisheries. Whilst some examples of fishery closure suggest that the biomass of target species starts to revert to former levels when fishing stops (1, 2, 11, 13-15) such reversibility does not appear to be likely in other areas (16-18). Fishing effects must be reversible if fish production is to be sustained and the reversibility of fishing effects is an assumption of many fisheries yield models. For those

fisheries which tend to other states, some of the models which have been used to assess their potential yields will be inappropriate. These models are based on the assumption that, following cropping, a fished population returns to its former state along a specified growth trajectory (Fig. 3). Production, and hence the potential yields from the fishery, are higher during some phases of this regrowth. Thus, if a herbivorous fish population were reduced to the theoretical point of maximum biomass regeneration (Fig. 3), urchins may compete more effectively for algal resources and prevent the re-establishment of the fish population. In view of the potential for shifts in the ecosystem to have critical effects on yield it is surprising that there has been so much largely unsubstantiated treatment of multispecies fish-fish interactions whilst fish-invertebrate interactions have received minimal attention.

### MANAGING THE ECOSYSTEM

There is good empirical evidence to suggest that fishing has initiated shifts in reef ecosystems, but most researchers have done little more than catalog possible fishing effects. While this is undoubtedly a valuable exercise during the development of fishing-effects science, in the long-term it is clearly desirable to understand shifts such that they can be predicted and managed. In order to assess the status of ecosystems and to devise management plans it is necessary to know which types and levels of yield are sustainable, which cause long-term shifts in the ecosystem and whether judicious management of the fishery can alter the probability of attaining favored states.

Successful management requires that the goals of management are defined, the status of the fishery assessed and that a management plan is developed and implemented. The goals of management depend upon the type of fishing strategy which is regarded as optimal in the region under consideration. Optimal

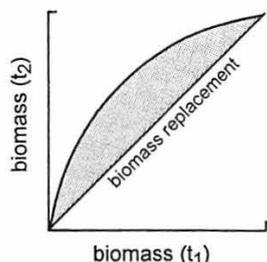
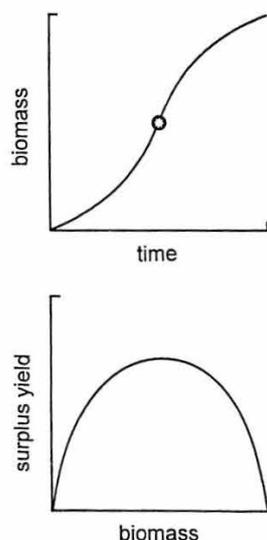


Figure 3. Surplus production models assume that the biomass production of a growing fish population, which is excess to that required for replacement (a, excess shaded), should be cropped to the point of maximum biomass regeneration (b, asterisk), providing a 'surplus' yield (c). However, cropping the biomass to the level of maximum biomass regeneration (the location of this level relative to virgin stock size will depend on the choice of function used to describe population growth) may allow an ecosystem shift to occur. In this case, the population does not regenerate in accordance with the predicted trajectory, and the expected yield is not realized. For discussion of these models, their derivatives and their other inadequacies see Appeldoorn (46) and Munro and Fakhua (47).



strategies in those societies with insufficient income or natural resources to obtain nonfish protein are likely to involve maximizing total yield whereas societies with access to a wider resource base may wish to maximize the immediate and/or long-term profits from their fishery. Fishery development fails when the aim of management is not compatible with the requirements of the fishers and the nature of the resource base. Thus, exploitation for financial benefit may create economic dependency on a fishery, and narrow the range of species cropped, when biological processes cannot sustain the favored size and composition of yield. In many developing countries, where fisheries are already heavily exploited to meet subsistence needs, the maintenance of a protein supply is a more important goal than providing income. Development usually encourages economic dependence on the fishery because fishers have to repay loans, purchase fuel, ice and gear, and will tend to overfish the resource. As the resource is more heavily fished, it becomes harder for subsistence fishers to catch their food and society is increasingly reliant on the few intensive fishers. Given the exponentially increasing population growth in many developing countries it seems unwise to reduce participation and increase costs in the fishery sector. At the very least, development should not be considered until the potential of the resource and the indirect value of the subsistence fishery (in terms of protein replacement costs) have been assessed. The indirect value of fisheries may be substantial. In Fiji, for example, the cost of replacing subsistence catches with fish from other sources has been estimated to exceed the income derived from sales of canned tuna, the most important fish export from this country (48).

Management is most likely to be successful in those relatively wealthy areas where socioeconomic analyses suggest that society is willing to police the fishery and has enough resources to do so. However, in these regions, it is often a major challenge to reconcile the aims of fishery managers and conservationists. An extreme example of the difficulties involved was provided by the introduction of the piscivorous Nile Perch (*Lates niloticus*) to Lake Victoria in Kenya. Following the introduction, there were significant decreases in the biomass and diversity of cichlid fishes, but the fishery based on the Nile Perch has expanded and total fish yields from the lake are now greater than in the period prior to its introduction (49, 50). Fishers may regard the shift in the ecosystem as a success, but the biodiversity loss has alarmed conservationists.

### APPROACHES TO MANAGEMENT

A number of management strategies may help to maximize yield while minimizing the probability of unwanted ecosystem shifts. On the basis of existing knowledge, favored approaches to management could include: (i) selective cropping of predatory species in an attempt to increase the (harvestable) production of their prey; (ii) treating reefs as fish aggregating devices and fishing species which are primarily pelagic or otherwise reliant on external food chains; and (iii) harvesting a diverse range of fish and invertebrates from all trophic groups. Fishing methods which do not damage reef habitats and which do not result in the death or injury of nontarget fishes (as discarded by-catch) are considered an essential prerequisite for the implementation of any of these strategies.

The cropping of predatory fishes has been suggested as a management strategy (51, 52), since it will lead to a reduction in predation on smaller, fast-growing and more productive species and an associated increase in their yield. However, although a number of studies have documented clear reductions in the biomass of target species through direct observation or changes in catch-per-unit-effort within a fishery (6, 11), evidence for compensatory increases in the biomass of their prey is weak. The apparent dominance of small fast-growing species from low



The increased use of visual census techniques has provided a better indication of the effects of fishing on nontarget fish and invertebrate populations. Photo: S. Jennings.

trophic levels in the catches may result from fishing activities damaging the habitat, from the fishers shifting their attention to the only remaining resources or from fishers reducing the amount of catch discarded. When independent assessment methods have been used to seek prey release effects, the results have been negative or equivocal (3, 7, 12) and certainly insufficient to account for the losses in yields of predators which would be expected.

Interestingly, the only vertebrate predator-prey relationship that has been consistently and convincingly demonstrated is that between humans and their target fishes. There are numerous studies which indicate that the population of target fishes decreases with increasing fishing effort and expands following the cessation of fishing (6, 11). The strength of this relationship is likely to result from the conservative fishing strategies employed by humans; who are often unwilling to be flexible in their aims and, target a relatively small proportion of the total fish fauna. Predatory fish, conversely, are very generalist feeders. Since only a few are targeted by the fishery, it is likely that other species will move-in to take advantage of available prey populations and limit their expansion. In many reef fisheries, loosely reef associated fishes such as jacks (carangids) which have area specific fish consumption rates (53) in excess of catch rates from the most heavily exploited fisheries (11, 28), could move in to consume prey formerly eaten by fishes such as groupers which are readily depleted by fishing. Only by mimicking the complex age, size and situation-related feeding strategies of predatory fish could humans be expected to ensure significant prey release in a complex reef-fish community (6). It is notable that one of the only studies to demonstrate that predation structured reef-fish communities relied on the removal of all predators likely to eat fish (54); a method not favored by fishers since many of the fishes which predate on early life-history stages are not favored for consumption or sale.

Reefs are already treated as fish aggregating devices by some societies, and this strategy has certainly protected the reef ecosystem. However, this treatment is unlikely to have widespread application in other areas since those societies who do not harvest reefs intensively usually have access to productive pelagic fisheries, prefer to consume pelagic fish or may fear that reef associated fishes will be toxic (ciguatera). Few other societies have these options or problems and it is unlikely that such a strategy could be widely adopted or enforced when it might necessitate a long-term and socially unacceptable decrease in yield. Furthermore, the capital cost of entering a shore-based reef fishery is less than entering a boat-based pelagic fishery and reef fisheries often have important social and recreational functions

in island societies (55). However, if the reef were treated as an aggregating device it would ensure that the integrity of reef was maintained, thereby maximizing its future value as an aggregating device and, potentially, as a tourist attraction.

There is good empirical evidence to suggest that harvesting a range of fishes and other organisms from many trophic groups is a fishing strategy which has produced some of the highest sustained yields without initiating adverse ecosystem shifts (11, 28, 56). One km<sup>2</sup> of actively growing reef fished for a variety of fish and invertebrate species is expected to support over 300 people if no other protein sources are available to them (57). The strategy of cropping organisms from many trophic groups appears to offer a number of advantages. Many species which are left dead or injured as 'by-catch' in other reef fisheries are consumed rather than wasted. Yields are derived from all the major functional groups of reef organisms, and thus the strategy is compatible with maintaining diversity of, and within, functional groups. Furthermore, the fishery will be less reliant on the productivity of individual species and natural cycles in their abundance will have minimal effect on total yield. The fishing of all trophic groups requires that people are willing to consume a range of reef organisms and this is unlikely to be acceptable within the framework of many existing fisheries development programs which usually result in the more intensive targeting of fewer species (58).

#### THE FUTURE

Vast areas of tropical reef have not been studied and it is impossible to determine the global impacts of fishing on reef ecosystems. More wide-ranging studies are urgently needed. Both, empirical and theoretical approaches provide a means by which to assess the impacts of fishing on reef ecosystems. The study of existing fisheries provides information on the sustainability of fishing practices (47, 56, 59). Reef fishers have adopted a gamut of fishing techniques and, in several fisheries, there is evidence to suggest that yields have been sustained for many decades (56). If existing procedures for the collection of catch and effort data were refined to examine the full structure of the catch (including discards, invertebrates and plants), and observed combinations of gear, effort and catch composition were treated as a series of experimental manipulations, we would begin to elucidate the strategies which have produced desirable yields or shifts. Alternatively, the probability of shifts might be predicted using models of the reef ecosystem. Modelling has already provided seemingly reliable estimates of fish yield from a few reef ecosystems, since the yields predicted (51, 60) equate with the highest actual yields recorded from reef fisheries (11, 28). Models have also been used to predict the effects of different exploitation patterns upon rates of reef accretion and bioerosion (19).

In many of the coastal regions already studied, the cumulative impacts of fishing have been considerable. In order to promote recovery in damaged fisheries, and to prevent adverse shifts in existing fisheries, we suggest that habitat destructive fishing techniques must not be used and that fishers should crop many species of fishes and invertebrates from many trophic groups. Clearly, fisheries have to be managed within socioeconomic constraints (24). Thus, any attempt to ensure the recovery of degraded and unsustainably exploited fisheries requires that some of the fishers who formerly depended on the reef are provided with alternative sources of food and income. Widespread cropping increases the probability that a given total yield can be sustained in the long-term, and reduces the risk of deleterious shifts in ecosystem function, but it is not a panacea for poverty and hunger. In developing fisheries, management must be proactive and promote the use of a broader rather than narrower resource base. Unfortunately, increased targeting of a wider

range of species has often been a reactive response to failure of the fisheries for favored species rather than a pro-active approach to management of a sustainable fishery. At present, our understanding of fishing effects is too primitive to provide a basis for active management of ecosystem function. Nevertheless, it is

clear that certain fishing strategies must be avoided and others adopted if fish productivity is to be maintained. In the long term, it is important to quantify the ecosystem effects of specific fishing strategies and to start to consider how the fishery and reef ecosystem can be treated as an integrated management unit.

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- 323 people: calculated on the basis that the total yield of fishes and invertebrates from a shallow actively growing reef is 25 tonnes km<sup>2</sup> year<sup>-1</sup>, that protein rather than energy content of the diet is restrictive, that the minimum protein intake should exceed the South Pacific Commission recommendations of 37g day<sup>-1</sup> for males and 29g day<sup>-1</sup> for females, that 20% of harvest is discarded during gutting or eating and that protein forms 20% of the remaining wet weight. Further details and references in 56. Note that sustainable yield from coralline shelf areas (as would be measured from charts, see 11 for discussion of area measurement for yield estimates), which include sand, rock and other substrates, would be closer to 5 tonnes km<sup>2</sup> year<sup>-1</sup> and thus the number of people which can be supported would be reduced by a factor of five.
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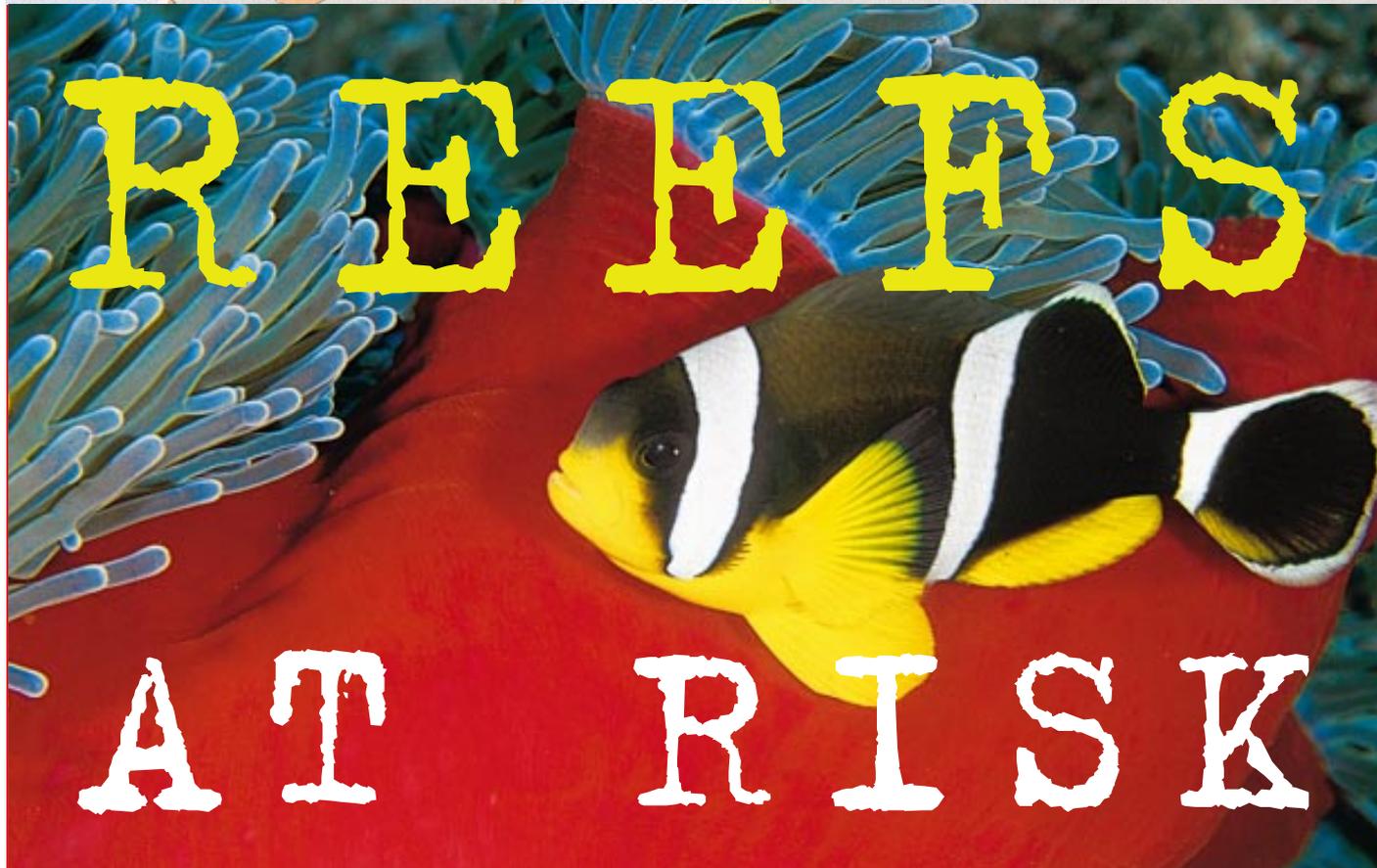
**Annex 709**

D. Bryant, et al., World Resources Institute, *Reefs at Risk: A Map-based Indicator of Threats to the World's Coral Reefs* (1998)





# REEFS



# AT RISK

A Map-Based Indicator  
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# REEFS AT RISK

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In many cases it is difficult to pinpoint the exact causes of coral reef declines now occurring around the world. Scientists believe that degradation frequently occurs through the interaction of a combination of human-caused factors, which then leaves reef communities less resistant to periodic natural disturbances. Disease, temperature extremes, pest outbreaks, tropical cyclones, and other natural events periodically devastate corals, with resulting ecosystem-wide repercussions. However, healthy reefs are resilient, and will recover with time. The impact of multiple stressors, both natural and human caused, can have a multiplicative effect on reef ecosystems. Evidence, much of it anecdotal, suggests that human-damaged reefs may be more vulnerable to some types of natural disturbances and take longer to recover.<sup>40</sup> For example, some experts believe pollution contributed to the recent die-offs of Florida Key reefs in the United States from white pox disease.<sup>41</sup>

Even where they are not directly affected by human activity, coral reefs may be threatened by the

degradation of nearby mangroves, seagrass beds, and other associated habitats, which serve as nurseries for many reef species. In addition, mangroves play an important role in filtering out sediments washed into coastal areas from upstream runoff. In many parts of the world, mangroves are being hacked away for fuel wood, creation of aquaculture ponds, and to make room for coastal development.<sup>42, 43</sup>

One other long-term threat is global climate change. Current models predict that climate change will elevate sea surface temperatures in many places, cause sea levels to rise, and result in greater frequency and intensity of storms. Although regional and local patterns in these changes are harder to model, the effects on coral reefs are likely to include greater physical damage by storms and more frequent instances of coral bleaching. (See box “Coral Reef Bleaching.”) This increase in “natural” stress levels will leave coral reefs in many parts of the world more vulnerable to human disturbances.<sup>44</sup>

## Cyanide Fishing: A Poison Tide on the Reef

The use of cyanide to stun and capture live coral reef fish began in the 1960s in the Philippines to supply the growing market for aquarium fish in Europe and North America, a market now worth more than \$200 million a year. Since the late 1970s, the poison has also been used to capture larger live reef fish (primarily grouper species) for sale to specialty restaurants in Hong Kong and other Asian cities with large Chinese populations. Selected and plucked live from a restaurant tank, some species can fetch up to \$300 per plate, and are an essential status symbol for major celebrations and business occasions. As the East Asian economy boomed over the past several decades, live reef food fish became a business worth some \$1 billion annually.

Despite the fact that cyanide fishing is nominally illegal in virtually all Indo-Pacific countries, the high premium paid for live reef fish, weak enforcement capacities, and frequent corruption have spread the use of the poison across the entire region—home to the vast majority of the planet’s coral reefs. Since the 1960s, more than one million kilograms of cyanide has been squirted onto Philippine reefs, and the vast Indonesian archipelago now faces an even greater cyanide problem. As stocks in one country are depleted, the trade moves on to new frontiers,

and cyanide fishing is now confirmed or suspected in countries stretching from the central Pacific to the shores of East Africa. Sadly, the most pristine reefs, far from the usual threats of sedimentation, coral mining, and coastal development, are the primary target for cyanide fishing operations.

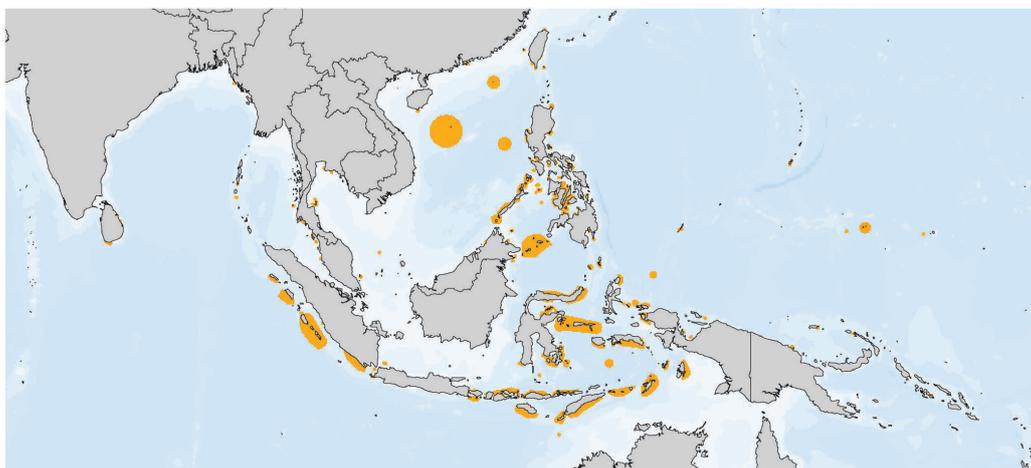
Systematic scientific testing of the impact of cyanide on reefs is scanty, but tests show that cyanide kills corals, and its toxic effects on fish are well known. Anecdotal evidence of the poison’s lethal effects on the reef comes from countless scuba-diving operators, field researchers, and cyanide fishermen themselves. The process of cyanide fishing itself indisputably wreaks havoc on coral reefs. The divers crush cyanide tablets into plastic squirt bottles of sea water and puff the solution at fish on coral heads. The fish often flee into crevices, obliging the divers to pry and hammer the reefs apart to collect their stunned prey. Cyanide fishing also poses human health risks: to fishermen, through accidental exposure to the poison and careless use of often shoddy compressed-air diving gear by untrained divers.

Cyanide fishing can be attacked, as experience shows in the Philippines, the only country so far to take concrete action against the problem. That country’s Cyanide Fishing Reform

(continued on page 16)

MAP 2.

## Destructive Fishing is Widespread in Southeast Asia



■ Areas Under High Threat from Destructive Fishing

Note: Areas classified as threatened by destructive fishing practices are based upon a 20-kilometer radius zone from known occurrences of dynamite or cyanide fishing as found in ReefBase (ICLARM, 1997) and were revised based upon expert opinion obtained at the two-day Reefs at Risk workshop held in September 1997 in Manila.

Program, a unique partnership between the government and the International Marinelife Alliance (IMA), a local non-governmental organization, has trained thousands of fishermen to use alternatives to cyanide such as fine-mesh barrier nets draped over a reef section to catch aquarium-sized fish and hook-and-line techniques to catch larger fish for the restaurant trade. The government has stepped up enforcement of anti-cyanide fishing laws by establishing a network of cyanide detection laboratories, operated by IMA, that randomly sample fish exports at shipment points throughout the country and monitor all aspects of the trade. New regulations are slated to make testing a requirement for all live fish exports and to tighten controls on import and distribution of cyanide. A public awareness campaign in the media and public schools is helping to educate Filipinos about the value of coral reefs and the threats posed by cyanide and other destructive fishing practices. Cyanide fishing

has not ceased in the Philippines, but it has certainly been reduced as a result of these efforts.

Currently, IMA, the World Resources Institute, and other partners are implementing the only on-the-ground program in Indonesia to train cyanide fishermen in alternative capture techniques, and are collaborating in the Indo-Pacific Destructive Fishing Reform Program to assist governments in at least half a dozen countries in Southeast Asia and the Pacific to combat this poison tide sweeping the planet's largest and most diverse expanse of coral reefs.

*Adapted from Charles Victor Barber and Vaughan R. Pratt, Sullied Seas: Strategies for Combating Cyanide Fishing in Southeast Asia and Beyond (Washington D.C.: World Resources Institute and International Marinelife Alliance, 1997).*

