

# Marine Resources and the Potential for Conflict in the South China Sea

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The drive to gain access to scarce natural resources has often been cited as a source of conflict between states. Nevertheless it is difficult to develop a conceptual framework that establishes a casual relationship between resource scarcity and conflict. In most instances scarcity is but one of a myriad of factors leading to an outbreak of hostilities. Similar potential conflict situations arising from the need for resources can have very dissimilar outcomes in different areas of the world. A current example is the

division of offshore waters and their accompanying wealth by the world's littoral states. In some regions this process has been a relatively amicable and orderly one. In others, such as the South China Sea, however, the eventual outcome may be entirely different.

The Rome Food Conference, the recent UNCTAD IV meeting in Nairobi and the Bucharest Conference on Population are indications of an increasing global sense of urgency regarding the equitable distribution of food and natural resources. The conferences on The Law of the Sea convened since the late 1940's are themselves testimony to the breakdown of the international legal and political order that has governed the use and distribution of marine resources for the past two hundred years. In fact, the last decade has witnessed an unprecedented scramble to claim the "wealth" of both the waters and seabed of the world's oceans.

Historically the sea's resources have not been shared equally among nations but have been exploited primarily by those states which have had large financial reserves or technological resources at their disposal. The majority of less developed countries (LDCs) have had little stake in the international ocean regime. They did not participate in its creation; nor were they effectively able to take advantage of it. In their opinion international law governing the use of the oceans only served the interests of the major maritime powers and the more technologically advanced developed countries.

Faced with chronic deficiencies of food reserves and other natural resources, coastal LDCs are looking to the oceans as a source of readily exploitable wealth to help alleviate their economic development problems. While this view is

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widespread, it is more often based on speculation than on a sound analysis of the resource base. Even so, many countries now see the extension of economic jurisdiction beyond existing territorial sea limits as the most effective means of altering the allocation of marine resources in their favor. These zones of exclusive economic jurisdiction (EEZ) will reserve the seabed resources of the continental shelf and the living resources of the overlying waters for the exclusive use of the littoral state. Under this new international EEZ regime in which 200 miles is becoming the accepted distance, the most productive areas of the ocean will fall under some form of national jurisdiction.

Several aspects of this world-wide trend are reflected in developments which have occurred in the South China Sea during the past decade. As the littoral states have sought to extend their access and control over the resources of the adjacent waters, this area has acquired a dimension of economic, political, and strategic importance which far exceeds its size.

### THE SOUTH CHINA SEA

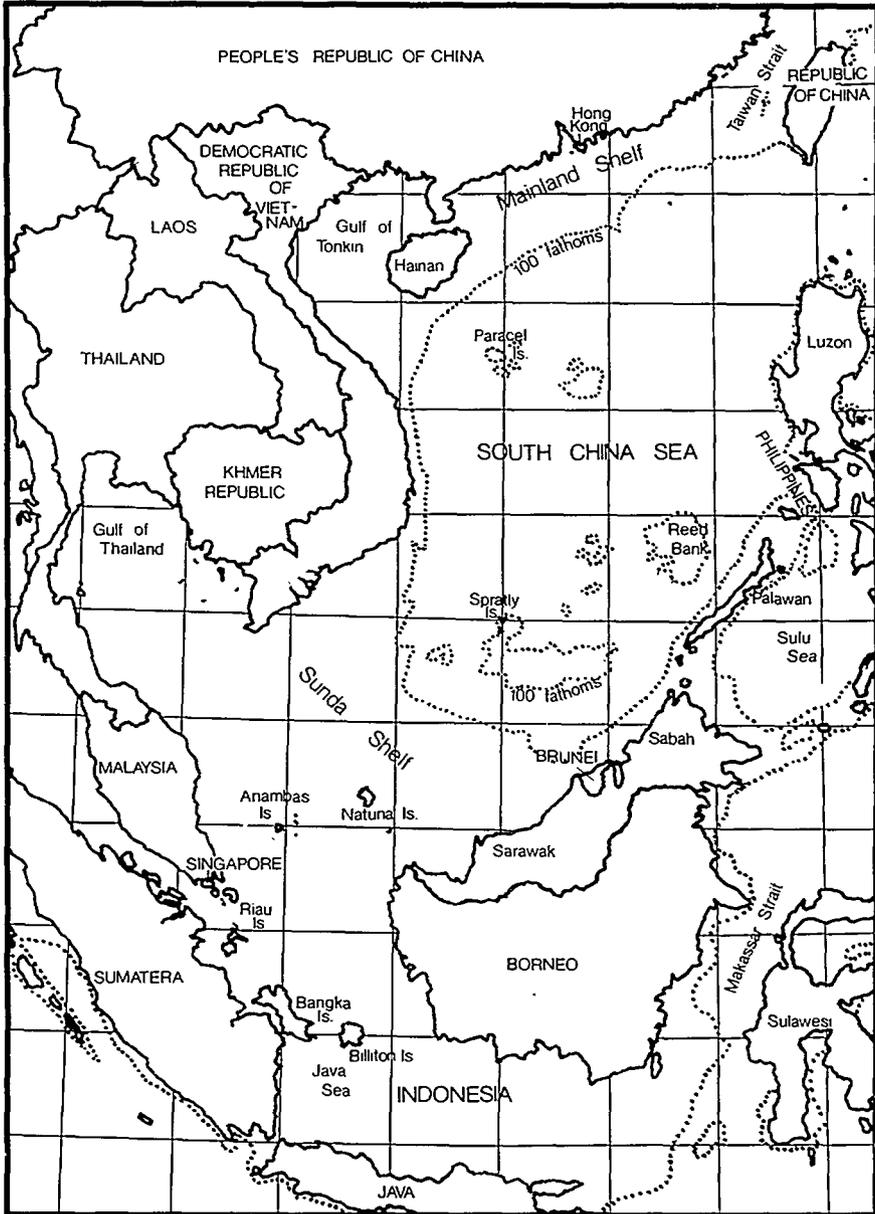
The South China Sea is the world's fifth largest body of water. It covers an area of almost 1.2 million square miles extending from below the equator between the islands of Sumatra and Borneo to as far north as the Taiwan Strait. The Sea is bounded by two major shelf areas: the Mainland Shelf adjacent to the coasts of Vietnam and The People's Republic of China, and the Sunda Shelf which fringes the entire southern boundary from northern Borneo to the Malay Peninsula, Gulf of Thailand and southern Vietnam (map 1). These two shelves are separated by the deeper China Sea Basin. More than half the shelf area of the South China Sea is less than 100 fathoms in depth, making it accessible to both modern fisheries and offshore drilling technology.<sup>1</sup> Combined with the East China Sea that lies further to the north this region comprises almost 20% of the shallow water area of the world's oceans. Because of the extensive continental shelves, relatively shallow depths, and the influx of numerous large continental rivers, the South China Sea is a highly productive body of water in terms of fisheries and other marine resources.

Located on the surrounding littoral are nine independent nations: The People's Republic of China, Vietnam, Cambodia, Thailand, Malaysia, Indonesia, the Philippines, Singapore, and the Republic of China, one sultanate, Brunei, and two colonies, Hong Kong and Macau. More than 25% of the world's population lives within these countries. With growth rates between 2.2% - 3.3%, a doubling of the region's population is expected to occur by the year 2000.<sup>2</sup> The majority of these countries are extremely poor in

1. Gulland, J.A., *The Fish Resources of the Ocean* (West Byfleet, Surrey: Fishing News Ltd., 1971).

2. "Asia 1975 Yearbook," *Far Eastern Economic Review* (Hong Kong, Jan., 1975) p. 58.

Map. 1. The South China Sea



terms of both natural resources and productivity; the annual average per capita income being only \$340.<sup>3</sup> At the political level, their governments span an entire ideological spectrum. In the past these political differences have prevented development of regional programs capable of dealing with the problems of rapid population growth and resource scarcity.

Presently all countries of the region claim three to twelve mile territorial limits, although Indonesia and the Philippines have partially modified this by utilizing the archipelago baseline concept to delineate their territorial waters. Both countries measure their territorial boundaries along a straight baseline connecting the outer islands of the archipelagos. Indonesia claims an additional territorial sea of twelve miles beyond this baseline. The Philippines has gone even further, extending its territorial waters up to 300 miles offshore.<sup>4</sup>

Fish and petroleum are by far the most valuable resources now taken from the South China Sea. In terms of present development the value of oil and gas far exceeds that of all other minerals mined on the continental shelves. The granting of offshore concessions and subsequent rapid pace of offshore oil development during the past decade has made establishment of 200 mile EEZ's a de facto occurrence. This has turned the more than 200 islands, reefs, and adjacent offshore areas into valuable real estate. Formerly these islands were of limited economic value, mostly producing phosphate reserves of bird guano for the coastal provinces of the mainland. Now the acquisition of even the smallest island or atoll theoretically provides its owner with access to more than 125,000 square miles of the surrounding seabed and the accompanying marine resources. Inclusion of these islands within a country's EEZ will leave a large area of the South China Sea subject to dispute. Consequently, if the implications of a 200 mile regime of exclusive economic zones are to be fully understood and the potential areas of conflict determined, it is necessary to analyze the present levels of development and the predicted reserves of both the fisheries and seabed mineral resources of the South China Sea.

#### FISHERY RESOURCES

Unlike seabed mineral and oil resources, fishery resources are both renewable and highly mobile. Many fish species migrate vast distances, often beyond the national jurisdiction of a particular state. Because fish spawn and then perish in a relatively short period of time, the resource base is constantly being regenerated. However, when the surplus of a stock is not caught within its

3. *Ibid.*, p. 58.

4. The Philippine claims are based upon the 1898 Treaty of Paris between the United States and Spain and the subsequent treaties of 1900 and 1930. See, "Territorial Seas, National Claims to Maritime Jurisdictions," no. 36, *Limits in the Seas* (Washington, D.C.: US Department of State, Office of the Geographer, March, 1976).

lifespan, a permanent loss of the resource, in both physical and economic terms, results.

A second distinctive character of a fishery resource is that international law traditionally has treated it as common rather than private property. As common property no single country is able to claim the exclusive right to exploit fish stocks beyond its territorial limits. Access to a fishery beyond this limit is open to all states. Thus exploitation of a fishery is not subject to the same restraints that govern a solely-owned resource.

Within the past twenty years the international regime governing the exploitation of high seas fisheries has been rendered inadequate. As technology has improved and the competition between states has increased, it has become possible to deplete many fish stocks to the point of virtual extinction. Under the present regime the share that each nation receives from the ocean's fisheries is directly proportional to the intensity with which it fishes. In a number of regions the resource base has been exploited to the extent that one state can increase its share of the total catch only at the direct expense of another.

South China Sea fisheries have been subject to over-exploitation not only by the rapid expansion of distant-water commercial fishing fleets but also by the increased organization of coastal fishing communities as part of national development programs. Localized conflicts between these opposing developments are now in the formative stages. Coastal fishing states contend that the international ocean regime as it is presently constituted favors the predations of capital-intensive, distant-water fleets and turns a blind eye on an equitable distribution of fish resources. In their view establishment of 200 mile EEZ would effectively alter the present distribution of benefits by providing a means of limiting the access of other states to offshore fisheries.

The distant-water fishing nations have opposed this stand on grounds that coastal states are either unwilling or do not possess the capability to harvest these resources up to their potential sustainable yields. Much of the renewable portion of a fish stock is thus wasted. What is frequently neglected in this argument however, is the waste that results from over-exploitation and over-capitalization of a fishery when there is little control over entry.

The large rapidly increasing population of Southeast Asia which relies upon fish as a major source of protein, coupled with the high productivity of the South China Sea's relatively shallow waters, make this region potentially one of the most important in the world in terms of living marine resources. Other than Indonesia, annual per capita consumption of fish for the countries of the region ranges between 24 and 48 kilograms - two to four times the world average.<sup>5</sup>

5. Marr, John C., *Fishery and Resource Management in Southeast Asia*, Paper no. 7, Program of International Studies of Fisheries Arrangements, (Washington, D.C.: Resources for the Future, 1976) p. 10.

Even these figures tend to obscure the importance of fish as a basic food source in many coastal areas where it provides 60% to 80% of essential protein requirements.

For some countries, fish is not only a source of sorely needed protein but also a source of foreign exchange. The two countries which rely most heavily on the export of fishery products for a significant part of their national income are Indonesia and Thailand. The revenues that these countries derived from fisheries in 1974 were between \$74 and \$80 million, accounting for almost 48% of all regional export earnings in the fisheries sector.<sup>6</sup>

During the past decade fish production in the region has grown by almost 45%, with landings now approaching 5.4 million metric tons per year.<sup>7</sup> The major producing countries, Thailand, the Philippines, Indonesia and the People's Republic of China have catch rates ranging from .8 to 1.4 million tons per year. Together these countries account for more than 50% of current production.

Though it is estimated that the fish resources of the South China Sea are only moderately exploited on a regional basis, specific areas have been heavily overfished. This is especially true of demersel (bottom-dwelling fish species) fisheries of the Northern Gulf of Thailand, as well as localized demersel and pelagic (surface-feeding fish species) fisheries on the Northern Mainland Shelf and in the waters adjacent to the Philippines.<sup>8</sup> Almost 65% of all the fish taken from the South China Sea is from these three areas. (map 2)

Even taking into consideration the recent rapid pace of fisheries development, the UN Food and Agriculture Organization conservatively estimates that the potential exists to increase annual production of fisheries by more than 55%. Pelagic fisheries are projected to be able to sustain a three- to four-fold increase over present catch rates. The most promising areas of future development are thought to be off the east coast of the Malay Peninsula and the Mekong Delta of Vietnam, north of Sarawak and Sabah on the southern and eastern portions of the Sunda shelf and in the central gyre of the China Sea Basin. (map 2) More modest increases in production are likely to be obtained from sectors of the Northern Mainland Shelf and the Philippines.<sup>9</sup>

The demersel fisheries are estimated to be capable of sustaining an increase

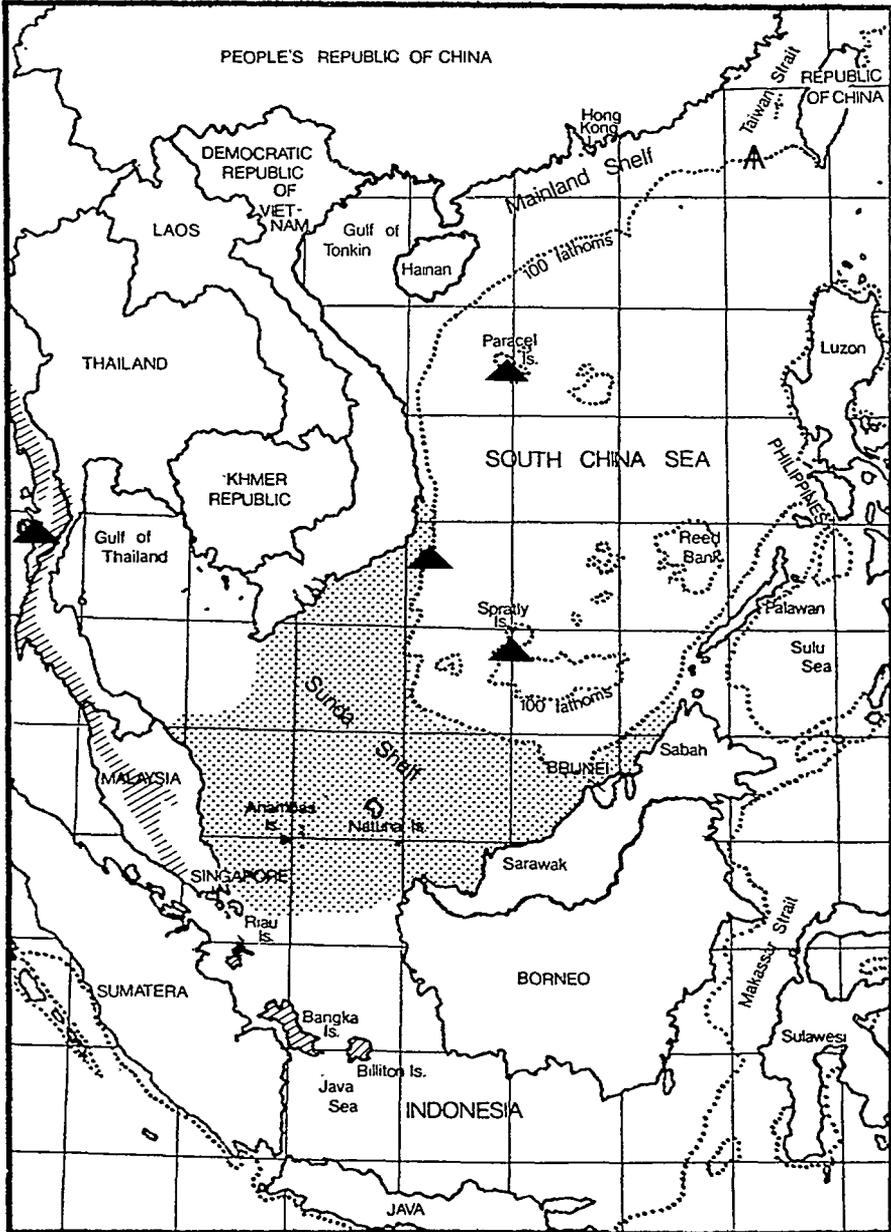
6. *Yearbook of Fishery Statistics*, vol. 39 (Rome: Food and Agriculture Organization, United Nations, 1974)

7. *Yearbook of Fishery Statistics*, vol. 38 (Rome: Food and Agriculture Organization, United Nations, 1974)

8. *Review of the Status of Exploitation of the World Fish Resources*, circular 320 (Rome: Food and Agriculture Organization, United Nations, 1974).

9. Menasveta, Deb, S. Shindo and Chullasorn, S., *Pelagic Fishery Resources of the South China Sea and Prospects for their Development*, (Rome: UNDP/FAO, Series SCS/DFV/73/16, 1973) p. 57.

Map 2. Resources in the South China Sea



Area of increased fish landings
  Tin
  Oil
  Phosphates

of almost one million tons. Areas of the South China Sea offering the greatest potential for the future development of these fish stocks are the central Sunda Shelf lying south of the Mekong Delta (an eight-fold increase over present production levels) and the southern and eastern boundaries of the shelf adjacent to peninsular and eastern Malaysia (a two- to a greater than four-fold increase).<sup>10</sup> Other smaller increases in catch might possibly be obtained in the Gulf of Tonkin and parts of the Northern Mainland Shelf. (map 2)

Long-term development plans of practically all countries of the region place strong emphasis on fisheries development as a means of increasing production of high quality protein and raising or at least maintaining employment opportunities for various sectors of the economy. The major weakness in many of these programs is that they are frequently based upon developing a resource that is common to two or more countries. This has led many governments to assume that extended national jurisdictions are required if the offshore exploitation of resources is to be controlled and orderly.

Low technology coastal fisheries produce the bulk of fish landed in many parts of the South China Sea. This industry is pursued primarily by village fishermen who utilize non-motorized fishing craft between 10 and 40 feet in length. Malaysia, Indonesia, the People's Republic of China, Vietnam, Cambodia and the Philippines are all reliant on this mode of fishing for a large portion of their current production. Recent government programs in Indonesia, Malaysia and the Philippines have encouraged the development of these fisheries in the belief that they provide a basis for improving socio-economic conditions at the village level.<sup>11</sup>

Within the region, the Republic of China, Hong Kong and to a lesser extent, Singapore, all have traditionally supported large-scale commercial fishing fleets. In recent years, however, several other countries, most notably Thailand and the Philippines have also developed large distant-water commercial fisheries. Japan is the only major fishing nation from outside the region which presently exploits the South China Sea's fishery resources to any extent. The production from the Japanese commercial fleets has increased by 75% in the past decade, reaching a quarter of a million tons in 1974.

The growth of the Thai fishing fleet has been the envy of many Southeast Asian nations. The country has more than 20,000 motorized fishing craft, of which 3,000 are large commercial trawlers. An average catch of more than 1 million tons has been landed annually since the early 1970's. The yearly contribution of fisheries to the Thai economy exceeds \$200 million; more than

10. Aoyama, Psunco, *The Demersal Fish Stocks and Fisheries of the South China Sea* (Rome: UNDP/FAO, series SCS/DEV/73/3) p. 63.

11. *Annual report of the International Center for Living Aquatic Resources Management*, (Honolulu, Hawaii: September, 1975) p. 98.

5% of the country's GNP.<sup>12</sup> However, there are now strong indications that as a result of this intensive development effort much of the resource base of the northern Gulf of Thailand has been seriously over-exploited. While the fleet continues to expand, production has been decreasing by about 2% per year, having reached its peak in 1972. The larger commercial trawlers are being forced to extend their operations further afield into the coastal waters of neighboring countries in the South China and Andaman Seas.<sup>13</sup> Confrontations between these large commercial vessels and the smaller coastal fishing fleets are becoming more frequent, and they are increasingly perceived as a threat by those countries which depend on fish as an essential part of the daily diet.

#### MINERAL RESOURCES

The countries of Southeast Asia produce 50% of the world's tin, 6% of the chromate, and 4% of the nickel and bauxite. Most of this production is mined from land deposits, but considerable tonnages of various minerals, especially tin, have been recovered from offshore areas in recent years. With the exception of tin, these seabed deposits are not as abundant, nor as valuable as those on land. Nevertheless numerous mining operations in Southeast Asia are finding it increasingly difficult to locate economic deposits of sufficient size and grade and are beginning to direct their interests to potential offshore areas, such as the tin deposits of western Thailand and Malaysia.

Offshore mining is more analogous to fishing or hunting than it is to mining operations on land. Exploration for seabed mineral deposits is conducted on a hit or miss basis. Daily operations can be severely affected by prevailing weather and sea conditions. Current marine technology is capable of locating and extracting minerals from the seabed, but quite often not at a cost that is competitive with landbased operations. The economic constraints imposed by available technology restrict most commercial mining operations to shallower near-shore areas of the continental shelf; most offshore dredging operations are limited to depths no greater than 150 to 180 feet.

The portion of the Sunda Shelf bordered by the southeast coast of Vietnam and the Malay Peninsula on the west, the Anambas-Natuna Islands and Borneo to the south, and the China Sea Basin to the east, encompasses an area greater than .75 million square miles. More than three quarters of this area is less than

12. Adulavidhaya, Kamphol, Bantorn Ondam, Veravat, Hongskul. "Socio-economic Conditions of Coastal Fishermen in Sattsheep, Thailand," paper presented at the East-West Center Conference on Socio-economic Aspects of Fisheries Development, (Honolulu, Hawaii: September, 1976) p. 1.

13. Lampe, Harlan, paper presented at the Conference on Social Science Research and Education in Relation to Fisheries Development and Planning, (Singapore: Agricultural Development Council, December, 1975)

300 feet in depth.<sup>14</sup> This shelf area is readily accessible to seabed mining operations, but the prospect for developing the region's offshore mineral resources still remains uncertain. Extensive geological surveys of the South China Sea have only been conducted during the past eight years and the potential for mining economically viable mineral deposits on the seafloor has yet to be determined.<sup>15</sup>

Seabed deposits of heavy minerals, such as gold, platinum and chromite, are often a continuation of onshore placer deposits. Originally these deposits were once concentrated on land, but over long periods of time they were broken down by continuous weathering and transported to the sea by erosion. The winnowing action of waves and currents eventually concentrated them into exploitable deposits. The heavier the mineral, the closer it is deposited to land. Consequently almost all commercial deposits of heavy minerals are found no further than a median distance of five miles from their primary source.<sup>16</sup>

Southeast Asia is the world's major tin producing region. The tin belt extends for 1800 miles from northern Burma and Thailand southward through the Malay Peninsula to the "tin islands" of Indonesia. While the largest land deposits are found in Malaysia, there are several offshore placers being mined at Phuket, off Thailand's west coast, and in the "tin islands" that are located between Sumatra and Singapore. Since the tin belt parallels the west coast of the Malay Peninsula most of the major deposits are located in this region. (map 2)

In Indonesia tin ranks second only to oil in the development of the country's mineral resources. The main producing region encompasses the tin islands which lie off the east coast of southern Sumatra. These islands are believed to contain more than 500,000 tons of tin reserves.<sup>17</sup> The Government of Indonesia is now dredging for offshore deposits around Bangka Island where 60% of the country's current production is mined.

Other offshore areas of potential interest are the islands of the Riau Archipelago where tin deposits are known to exist on land. These islands are located within Indonesian waters, between Sumatra and Malaysia. The Anambas and Natuna Islands may also contain tin deposits, but most likely they lie too far to the east of the tin belt to be productive. (map 2)

The other major offshore mineral resource found in the South China Sea is

14. "Regional Geology and Prospects for Mineral Resources on the Northern Part of the Sunda Shelf," vol. 1 (Bangkok: ECAFE/Committee for Coordination of Joint Prospecting for Mineral Resources in Asian Offshore Areas, 1970) p. 129.

15. *Ibid.*, p. 129.

16. Hosking, K.F.G., "The Offshore Tin Deposits of Southeast Asia", technical bulletin vol. 5 (Bangkok: ECAFE, Committee for Coordination of Joint Prospecting for Mineral Resources in Asian Offshore Areas, 1974) p. 119.

17. "Tin Ore Resources of Asia and Australia," *Mineral Resources Development Series*, no. 23 (Bangkok, Thailand: ECAFE, E/CN.11/671) p. 31.

phosphorite, a complex calcium-phosphate rock which is a source of phosphate for chemicals and fertilizers. Recent increases in agricultural production in Southeast Asia are heavily dependent upon the increased use of fertilizer. With over 70% of regional phosphate fertilizer needs being supplied by imports from other parts of the world, locally available reserves are becoming increasingly valuable.

Significant deposits of phosphorite are found in the Paracel Islands located 210 miles east of Da Nang, Vietnam. The reserves have been exploited since the early part of this century and were worked extensively by the Japanese during World War II. The six principal islands in the group are estimated to have reserves as high as 19 million tons, of which approximately 30% could be converted into fertilizer.<sup>18</sup> (map 2)

Phosphorite is also formed in regions of oceanic upwelling where large volumes of phosphate-rich cold water rise from great depths to the surface. In the warmer surface waters, phosphate precipitates out of solution and then sinks to the seafloor forming deposits of phosphorite. There is a possibility that large reserves may be located off the east coast of Vietnam where a seasonal localized upwelling formed by the South China Sea's monsoon-driven current system generates the required oceanic conditions. A number of surveys have determined that potential reserves do exist on the seabed, but as yet there has been little exploration.<sup>19</sup>

#### OIL AND NATURAL GAS RESOURCES

Petroleum is the major fuel of Southeast Asia's economic development. Since the 1960s consumption of petroleum products has increased almost four-fold. The production of oil and gas from local sources should be more than adequate to meet the region's demand, but practically all of this production, from Brunei and Indonesia, is exported to other parts of the world. Consequently, most of the littoral states are reliant upon oil imports from the Middle East for more than 90% of their current energy needs. This dependence has led them to look elsewhere for alternative sources of supply.

The first successful offshore well in Southeast Asia was drilled off the coast of Brunei in 1957. In the two decades since this development the growth of offshore oil exploration has been so rapid that by 1974 the entire shelf area of the South China Sea was leased to drilling concessions.

Geological surveys of the continental shelves indicate that the seafloor of the South China Sea is underlain by several large basins of thick sedimentary rock

18. "Mining Developments in Asia and the Far East," *Mineral Resources Development Series*, no. 35 (Bangkok, Thailand: ECAFE, E/CN 11/949, 1970) p. 93.

19. "Regional Geology and Prospects for Mineral Resources on the Northern Part of the Sunda Shelf," see note 14, p. 129.

that have the potential to produce either oil or natural gas. Subsequent exploration and drilling in the late 1960's and early 1970's appeared to support predictions that prospects were indeed favorable.

But to date, success in developing offshore fields has been mixed. Reserves definitely exist beneath the South China Sea, however they do not approach the size found in the Persian Gulf, or off eastern Kalimantan in the Celebes Sea and Makassar Strait. Based on past drilling experience a number of oil industry experts now feel that the oil and gas located beneath the South China Sea may not be concentrated in large reservoirs, but rather located in isolated pockets that could prove difficult to tap.<sup>20</sup> Another problem restraining future development is that many of the more promising areas for exploration and development lie in relatively deep water far from the coast. The cost of producing oil or gas from these sites could be prohibitive; to be competitive with Persian Gulf oil, the fields must be large in size and productivity of the individual wells, the key factor in determining the economic value of a field, must be high.<sup>21</sup>

The potential for discovering natural gas deposits beneath the seabed, rather than oil, may actually be greater. Even though there is a large concentration of oil fields along the north coast of Borneo, the majority of wells in other parts of the South China Sea, such as in the Gulf of Thailand, are producing gas.<sup>22</sup>

The most productive offshore area in the South China Sea is the eastern Sunda Shelf north of Brunei and the Malaysian states of Sarawak and Sabah. Brunei, with an area of only 2,226 square miles, is the third largest producer in Asia, after China and Indonesia. In 1954 the government of Brunei annexed the adjacent continental shelf to a depth of 600 feet. Today, more than 90 % of the country's income is derived from its offshore oil and gas reserves. The country is virtually a "petroleum subsidiary" thoroughly integrated into the global empire of Royal Dutch Shell. Its four major offshore fields are located between 10 and 18 miles from the coast and one of them, Southwest Ampa, is among the ten largest in the world. Current production is more than 200,000 barrels per day with reserves estimated at 260 million tons.<sup>23</sup> The east Malaysian states of Sarawak and Sabah, which flank Brunei, account for the remainder of

20. "Oil and Gas Exploration in the Gulf of Thailand," *Wall Street Journal*, 29 October 1975, p. 6.

21. Mainguy, M., "Regional Geology and Petroleum Prospects of the Marine Shelves of Eastern Asia", Technical Bulletin, vol. 3 (Bangkok: ECAFE/Committee for Coordination of Joint Prospecting for Mineral Resources in Asian Offshore Areas, 1973) p. 105.

22. It is difficult to make an accurate assessment of the total recoverable offshore reserves of the South China Sea. Those who do have access to these estimates, the oil companies, tend to guard the information closely and release it only to suit their own needs. However, from a careful reading of oil industry journals and the local press a determination can be made as to where the major strikes are located and the specific areas that various governments have leased to offshore concessions.

23. *World Oil*, vol. 183, no. 3., 15 August 1976.

the production on the eastern Sunda Shelf. There are six offshore fields in Sarawak and three in Sabah. Together they produce an aggregate of 180,000 barrels per day.<sup>24</sup> (map 3)

The sandstone and sedimentary formations that underlie the southern part of the Sunda Shelf have long interested geologists as another potential oil-producing area. In mid-1975 Indonesia leased several offshore concessions covering 8,200 square miles of water around the Natuna and Anambas Islands. Even though the country is the largest offshore producer in the region, this was its first effort to tap potential oil and gas resources in the South China Sea.<sup>25</sup> An agreement has been reached with the Malaysian Government regarding the demarcation of concession boundaries, but a major portion of the northern sector of Indonesia's claim is disputed by Vietnam. (map 3)

On the central Sunda Shelf adjacent to the Malay Peninsula, eight foreign oil consortiums now control more than 66,000 square miles of concessions leased from the Malaysian Government.<sup>26</sup> Within this area there are two major producing zones located 100 to 160 miles off the northeast coast. The level of oil and gas production in this region is far below that obtained in eastern Malaysia. Many of the more recent discoveries have been made in an area adjacent to the concession boundary with Indonesia. Oil experts now believe that the underlying sedimentary structures in this sector may abut that boundary and are probably connected with the oil and gas reservoirs in the Indonesian concession area.<sup>27</sup>

Further to the north, in the Gulf of Thailand, the dispute over conflicting offshore concession boundaries is more complicated. The entire Gulf has been leased to oil concessions,<sup>28</sup> and a substantial portion is under dispute as a result of overlapping claims by Thailand, Malaysia, Cambodia, and Vietnam.

Within the Thai concession area an offshore natural gas field has been discovered 300 miles south of Bangkok. In mid-1976 production tests were conducted on a new well in this field which lies 24 miles inside the boundary of Thailand's overlapping claim with Malaysia.<sup>29</sup>

The discoveries off Thailand in 1973 led to increased exploration activity and rising tensions in other areas of the Gulf. Almost the entire concession area off

24. The major fields lie about 30 to 50 miles from the coast, although Sabah's concession area is only between 40 to 70 miles in width because of the close proximity of the 100 fathom depth contour. *Petroleum News Southeast Asia*, August, 1976 p. 12.

25. "Indonesian Oil off Natuna Island," *Wall Street Journal*, 15 July 1975, p. 12.

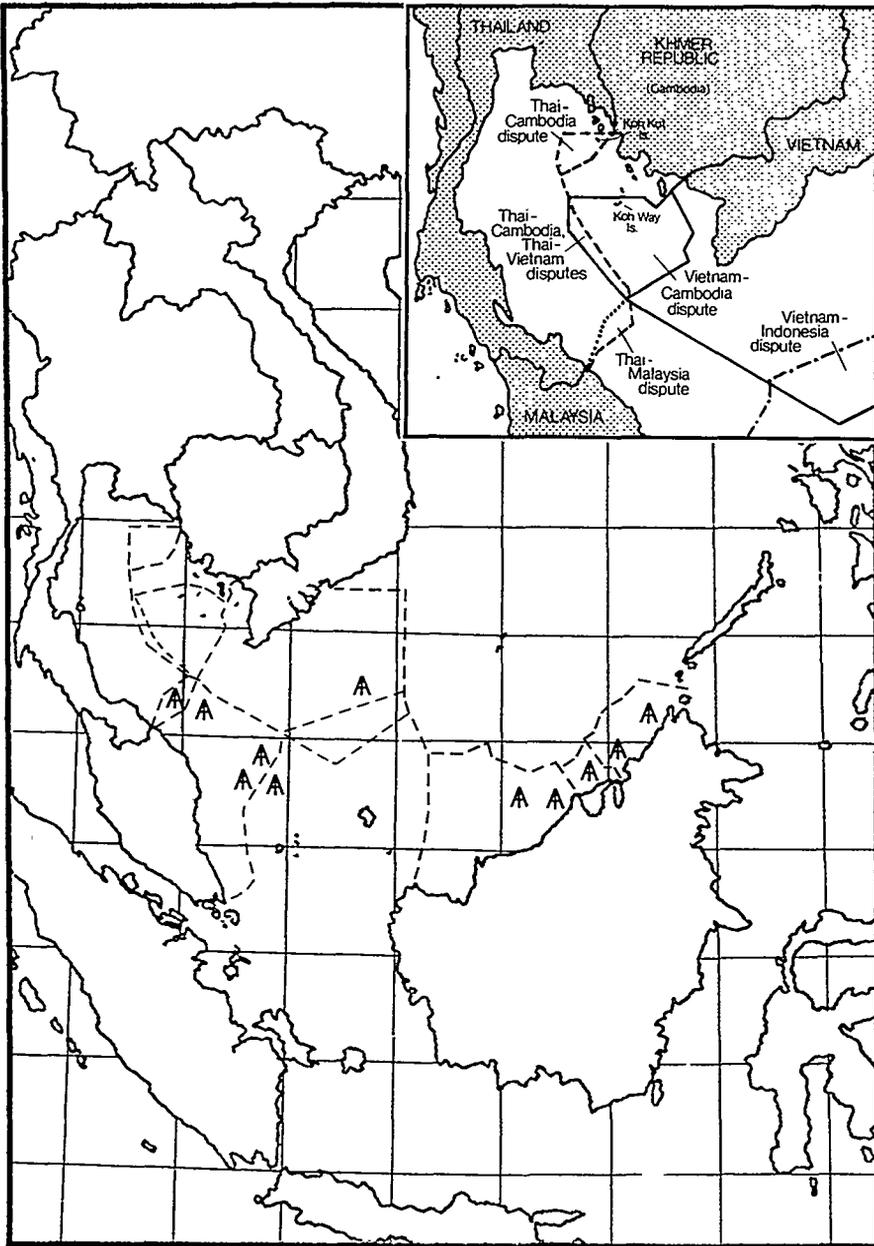
26. *World Oil*, 15 August 1976.

27. "Drilling off Malay Peninsula Will Slow Down in 1975," *Oil and Gas Journal*, 3 March 1975, p. 98.

28. Ping, Ho Kwon, "Drilling Down in the Gulf," *Petroleum News Southeast Asia*, vol. 6, no. 4, 1975, p. 23.

29. "Tenneco Oil Strikes Oil in the Gulf of Thailand," *New York Times*, 1 May 1973, p. 71 and "Explorations Encouraging outlook," *Petroleum News Southeast Asia*, July 1976, p. 19.

Map 3. Boundary Lines for Oil Concessions and Areas of Dispute



A Oil      --- Boundary lines for oil concessions

Cambodia is being disputed by both Thailand and Vietnam. If these countries are successful in their demands, they could reduce Cambodia's present offshore claims by 75%. During 1974 Cambodia and Vietnam almost came to blows over a joint American-French consortium that was drilling off Koh Way Island under a Cambodian concession. The Vietnamese threatened to invade the island but tensions eventually relaxed when the rig was dismantled. The Khmer Rouge closed Cambodia to foreign oil and gas exploration when they came to power in 1975, and as a result the offshore conflicts with her neighbors have been suspended. (map 3, insert)

Prior to its fall in 1975, the Government of South Vietnam leased a large area of the Sunda Shelf lying south of the Mekong Delta. Twelve of these initial thirty concessions conflicted with areas already claimed by Thailand, Cambodia, and Indonesia. Potential reserves of oil and gas have been found in two areas on the shelf. According to oil industry reports these finds did not conclusively establish that commercially exploitable quantities were present but the test rates of the wells were supposedly comparable to those in Indonesia. The concessions were terminated by Hanoi following the fall of Saigon; however, the present Vietnamese Government has begun to renegotiate these leases. If the apparent eagerness of American companies to return to their former concessions is any indication, it is quite likely that the shelf area adjacent to Vietnam will prove to be productive.<sup>30</sup> (map 3)

Although most of China's current offshore oil and gas production is in the East China Sea and the Po Hai Gulf, it is estimated that there are more than 8 billion barrels of recoverable reserves on the northern Mainland Shelf and in the Straits of Taiwan. Since 1974 the government has been conducting extensive seismic surveys of the seafloor in the northern South China Sea around Hainan Island.<sup>31</sup> Across the Taiwan Strait the government of the Republic of China has one offshore natural gas well in production 60 miles southwest of the island. Through its overseas broadcasts Peking has laid claim to this strike. (map 2)

On the eastern edges of the South China Sea the offshore area that appears to be the most likely to produce either gas or oil is the narrow continental shelf adjacent to Palawan Island. This shelf area is a structural continuation of the eastern Sunda and North Borneo shelves that lie further to the south. Several of the more recent offshore discoveries in Sabah lie extremely close to the southern tip of Palawan. In fact, if the border between the Philippines and Malaysia south of the Turtle Islands were drawn in a straight line, and not bent as it actually is, these discoveries would lie in Philippine territory.

30. "Shell Discovers Oil Off South Vietnam," *New York Times*, 27 October 1974, pg. 11 and "North Vietnam Seeking to Relet Former American Concessions," *Los Angeles Times* 14 December 1975, p. 7.

31. Harrison, Selig S., "Time Bomb in East Asia," *Foreign Affairs*, Fall, 1975, pp. 6 and 18.

Recent drilling activity in the Philippines has been concentrated on the Reed Bank located on the eastern edge of the Spratly Archipelago. (map 2) A number of drilling concessions have been granted by the government in this area which also is claimed by The People's Republic of China, Vietnam, and the Republic of China on Taiwan. The first two offshore oil strikes in the Reed Bank concession block were made in March and August of 1976, but no reliable estimates of potential reserves have been made publically available as yet.

### ISLANDS IN DISPUTE

Future inter-state disputes in the South China Sea are likely to develop not only as a result of conflicting concession claims to the marine resources of the continental shelves, but also from the struggle to acquire and control numerous offshore islands in the region. For centuries national claims to these islands were consistently ambiguous, but the "oil fever" of the late 1960's placed their ownership in an entirely new perspective.<sup>32</sup>

A sizeable area of overlapping claims is being contested by Thailand, Vietnam, and Cambodia in the Gulf of Thailand. (map 3) The Thai-Cambodian dispute centers on ownership of Koh Kut Island that lies near Cambodia's western frontier. Although Phnom Penh's claim to the island is based on a French-Siamese treaty of 1907, Thailand is unwilling to relinquish its counterclaim. With access to approximately 8,000 square miles of continental shelf in dispute, the demarcation of offshore boundaries could be altered considerably.

The Vietnam-Cambodia dispute is similar. Both parties claim sovereignty over Koh Way Island which is located off the southwestern tip of Vietnam. The Vietnamese contend that a mutual boundary for offshore oil concessions should be drawn through the channel separating Koh Way and its neighboring islands. (map 3 insert) The Cambodians have refused to negotiate this issue, claiming the Koh Way lies entirely within their territorial waters. Outwardly at least, the two new regimes in Saigon and Phnom Penh have announced a willingness to resolve this dispute diplomatically. In the meantime, all offshore exploration activity in this area has been suspended by both governments.<sup>33</sup>

Since the early 1970's, conflicts over sovereignty to the two major island

32. Although there is general agreement among the littoral states in the application of the median line principle to delineate their offshore boundaries, more recent disputes in the Gulf of Thailand and on other parts of the Sunda Shelf have arisen over the legal and political status of offshore islands.

33. "Conflict Between Thailand, Cambodia, Vietnam—Gulf of Thailand," "Asia 1976 Yearbook", *Far Eastern Economic Review*, p. 20, and "Vietnam and Cambodia Agree to Settle Their Dispute Peacefully," *New York Times*, 9 May 1975, p. 10.

archipelagos in the South China Sea Basin have occurred with increasing frequency. If either the Paracels or Spratlies are taken as base points four littoral states—Vietnam, China, Malaysia and the Philippines—lie within 400 miles of one another. With several countries vying to establish political and military control over these islands, it is possible that a substantial part of the central South China Sea will be covered by overlapping EEZ's. (map 4).

The People's Republic of China and Vietnam both claim sovereignty over the Paracels. Peking insists that its administrative control dates back to the Han Dynasty and has unearthed artifacts on one of the islands to support this contention. Both countries have used the islands as a haven for fishermen and a source of phosphate. Pattle Island, one of six major islands in the group, was ostensibly the site of a Vietnamese meteorological station constructed in the 1930's.<sup>34</sup> This long-standing dispute erupted into open conflict in January, 1974. In response to increased Vietnamese activity in the area, Peking issued a statement reasserting its claim to the islands and warning that any further Vietnamese incursions would constitute an infringement of Chinese territorial integrity. Saigon responded by dispatching two coastal cutters to the area and landing its troops on the islands. Within days a Chinese flotilla of seven ships opened fire on these troop positions. Suffering heavy casualties, the Vietnamese withdrew from the archipelago.

Within a week of this defeat Saigon sent troops into the Spratly Archipelago to construct "defensive" military positions and to establish an administrative presence. Hanoi moved quickly to bring the islands under its own control following the fall of South Vietnam, fearing that any inaction on its part would create a political vacuum that would soon be filled by another government claiming sovereignty over the archipelago.

Presently four nations—the Philippines, The People's Republic of China, Vietnam and the Republic of China on Taiwan—claim the Spratlies, either in part or in their entirety. The archipelago consists of a conglomeration of more than 200 small islands and atolls that stretch over 90,000 square miles of water. These islands are so thinly dispersed that it is practically impossible to determine precisely their geographical extent.<sup>35</sup>

Peking has continuously contested the claims made by others to the archipelago, asserting that "the continental shelf is a natural extension of the continent" and that China's sovereignty extends to the edge of the shelf.<sup>36</sup> Its claims to these islands have a strong historical basis. During the early Ching Dynasty the islands were surveyed and depicted on the emperor's maps as

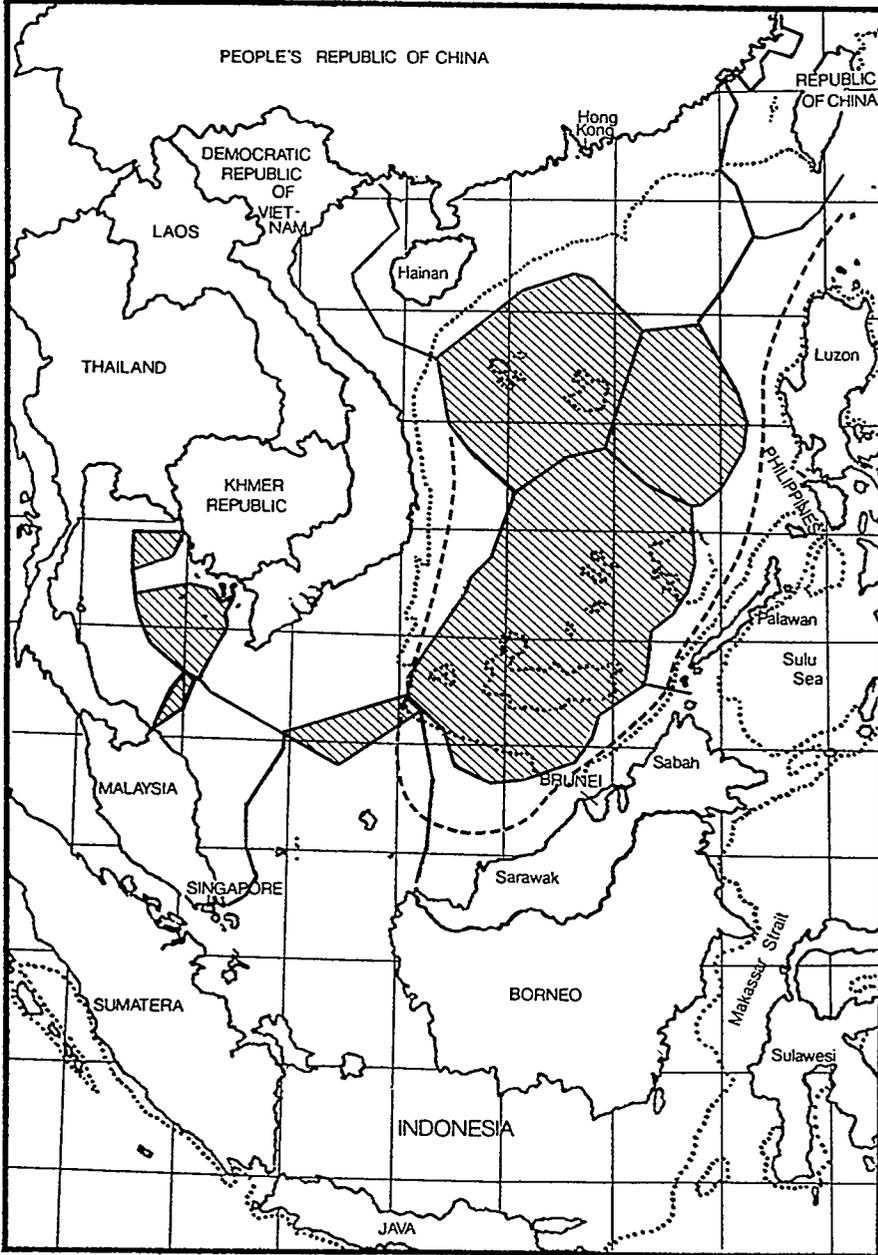
34. "Storm in the China Sea," *Time*, 4 February 1974, p. 43.

35. According to the US State Department, an exact definition that delineates the territorial extent of the Spratlies has not been developed. Personal communication, Office of the Geographer, US State Department.

36. *New York Times*, 17 February 1974, IV, 3: p. 1.

### Map 4. Boundary Claims of Extended Jurisdiction and Areas of Overlapping Claims

(Adapted from, John C. Marr, *Fishery and Resource Management in Southeast Asia*, see note 5)



▨ Areas of overlapping claims

--- China's maritime boundary (on Chinese maps)

Chinese territory.<sup>37</sup> Today, official publications and maps continue to include the Spratlies. Tsengmu Reef, lying only 30 miles north of Sarawak, is designated as the country's southern-most boundary. (map 4)

Vietnamese claims to the western part of the archipelago date back to an 1802 charter creating a national company to exploit the islands' phosphate deposits. Later during the period of colonial rule the French constructed a number of lighthouses in the archipelago and claimed the islands based upon their "continuous" presence.<sup>38</sup> Before being evicted by the Japanese during World War Two they erected a marker on the island of Itu Aba bearing the inscription, *France—Ile Itu Aba et Dependences, 10 Avril, 1933.*<sup>39</sup>

In the San Francisco Treaty of 1951, officially ending World War II in the Pacific, Japan relinquished all claims to the Spratlies. The treaty, however, made no provision for the transfer of Japanese jurisdiction over the islands to another state. Because of this, the Vietnamese have claimed sovereignty over all former French territories in this part of the South China Sea. Peking strongly objects to this claim on the grounds that Chinese naval units accepted the Japanese surrender in the Spratlies at the conclusion of the war.

In contrast to the other countries party to this dispute, the Philippines have not attempted to document their claims to the eastern Spratlies surrounding the Reed Bank. Pronouncements by the Philippine Government suggest that its claims are based mainly on proximity. A number of atolls in the eastern Spratlies lie only 40 to 50 miles west of Palawan Island.

Manila issued its first claim to the Spratlies in 1955 and reaffirmed it in 1971 when leases were granted for several offshore concession blocks in the Reed Bank area. This action elicited strong statements from both Taipei and Peking. However, recent offshore oil discoveries have prompted President Marcos to state that while the Chinese may claim the Spratlies, the government of the Philippines, "is confident that it will be able to retain the resources of the Reed Bank."<sup>40</sup>

## CONCLUSION

With eight countries vying to establish jurisdiction over the waters of the South China Sea, inter-state conflicts could conceivably develop over two resources, fisheries and oil. Because of the manner in which placer deposits

37. Howell, Leon and Michael Morrow, "Formidable Task for Peking," *Far Eastern Economic Review*, 31 December 1973, p. 39.

38. Long, Jay H., "The Paracels Incident: Implications for Chinese Policy," *Asian Affairs*, March/April, 1974, p. 234.

39. "Formidable Task for Peking," see note 37, p. 39.

40. "A Shot in the Arm for the Philippine Oil Search," *Far Eastern Economic Review*, 20 August 1976, p. 34.

of heavy minerals are formed and the fact that almost all offshore concentrations lie within present territorial limits, it is doubtful these will be cause for dispute. The only major offshore mineral resource now in international waters is the phosphate deposits of the Paracel Islands which, for the moment, are effectively controlled by the People's Republic of China.

The littoral states that emphasize coastal fisheries in their national development programs are likely to favor the establishment of a 200 mile EEZ regime in the South China Sea. Indonesia, Vietnam, the People's Republic of China, the Philippines and Cambodia fall into this category. With the most promising areas for increased production lying off Vietnam and Malaysia, both countries can be expected to favor political and legal alternatives that reserve the development of these resources for their own exclusive use. The People's Republic of China also may move to increase its protection over the fishery resources of the northern Mainland Shelf, an area which is already heavily exploited.

In opposition to the establishment of an EEZ regime are the distant-water fishing nations—Thailand, Singapore, Hong Kong, and the Republic of China. Thailand, more than any other country in the region depends on fisheries as a source of both protein and foreign exchange. The Thai fishing industry is an important and developed sector of the national economy. Any long-term disruption of this industry could have serious economic and social repercussions. The distant-water trawler fleets have over-exploited the fishery resources of the northern Gulf of Thailand and are being forced to seek more promising grounds further from home. Thailand could be the key country in any future conflict that arises over the development of a fishery resource. The outcome of these fishery disputes, however, is likely to hinge on the manner chosen by the region's governments to settle their present claims over offshore oil and gas resources.

More than a dozen bilateral treaties will be required to settle national claims to offshore oil and gas concession blocks. Development of marine resources within these disputed areas, both now or under a future EEZ regime, is contingent upon the successful negotiation of these agreements. To date only three have been concluded.<sup>41</sup>

On the Sunda Shelf the dispute over oil concession boundaries has brought four countries - Indonesia, Cambodia, Thailand and The People's Republic of China - into direct opposition with Vietnam. Neither Hanoi nor Peking has officially stated its position regarding offshore fishery or oil resources, but once these claims are specified the number of confrontations between these five states can be expected to increase.

41. Park, Choon ho, *The South China Sea Dispute: Who Owns the Islands and the Resources*, paper prepared for the Council on Foreign Relations (July 1976) p. 9.

In some instances governments are unlikely to press their claims until the economic potential of a particular area has been ascertained. Both Thailand and Malaysia have deemphasized the importance of their overlapping oil concessions in the western Gulf of Thailand. Each government appears to be awaiting a comprehensive assessment of the resource base in this sector. A similar situation exists on the central Sunda Shelf, where neither Indonesia nor Vietnam apparently is ready to negotiate an agreement over their conflicting offshore boundaries.

Although the best prospects for striking oil or gas lie within the 100 fathom depth contour of the continental shelf, the island archipelagos of the China Sea Basin are also potential drilling sites. This is the most common explanation given for China's willingness to risk the use of force in the *Parcels* dispute.<sup>42</sup> Vietnam however will continue to push its claims to the islands. The agricultural prosperity of southern Vietnam is reliant upon phosphate fertilizer and various forms of mechanized farming requiring large inputs of petroleum. Thus, any long-term independence for Hanoi within the communist bloc will depend on its ability to develop its own oil and gas reserves. Control over the *Paracels* and *Spratlies* may provide the means of attaining this goal.<sup>43</sup>

Strategically, the *Spratlies* are far more important than the *Paracels*. Practically all inter-regional shipping routes between Manila, Hong Kong and Singapore, as well as Japan's primary sea line of communication, transit the archipelago at some point. While it is unlikely that any of the claimants to the archipelago has designs on inhibiting the flow of commercial shipping, the potential exists for a littoral state to utilize its control of the *Spratlies* as a means of expanding its influence in the region and restricting the movements of the major maritime powers, especially in a crisis situation short of armed conflict.

China's position in the *Spratly* dispute is not as strong as its claims to the *Paracels*. By Peking's own admission its sovereignty extends only to the "edge of the continental shelf." Geologically these islands do not lie on a shelf area that is contiguous with the mainland, but rather, are located within the China Sea Basin. Depending on how it chooses to draw its territorial boundaries, China could be opposed by five or more nations. Asserting its claim over the islands would only jeopardize its relations with the rest of Southeast Asia,

42. The alternative is that China was simply reasserting control over what it considered national territory. Looking south from Peking the South China Sea has the appearance of a Chinese lake, which it once was. To the Chinese, ownership over the *Paracels* and the *Spratlies* is one of historical record. While it has not been officially stated, all former tributaries lost to colonial powers since the 19th century are looked upon as still belonging to China, unless an "adjustment" has been agreed upon. Peking repeatedly has stated that it will move to recover these lost territories when the "time is ripe." Apparently the *Paracels* were one instance when the accompanying political and military risks were judged as being minimal.

43. "Vietnam Needs Oil to Maintain Independence," *Los Angeles Times*, 14 December 1975, 8: p. 1.

especially the Philippines and Vietnam, two countries which are unlikely to relinquish their desires to control at least a portion of the archipelago. An open conflict over the islands would reflect badly on Peking's attempts to establish itself as a leader in both Asia and the developing world. Currently China is under no pressure to develop the resources of the continental shelf beyond its present jurisdiction. Not wanting to compromise its political principles and foreign policy objectives, Peking probably will not push to substantiate its claims to the Spratlies. For the immediate future at least, the dispute is a stalemate.

As each of the littoral states of the South China Sea have sought to gain a more advantageous allocation of the resources of the seabed and its overlying waters, they have initiated a process of creeping jurisdiction that is altering the political and strategic character of the entire region. In such an environment it is inevitable that conflicts in one form or another will continue to occur. While these disputes are based primarily on economic needs, they are also imbued with strong political and nationalistic overtones. Whether situations of this type remain limited to specific regional areas or become a matter for global concern is an open but serious question for all countries which have a stake in the political stability of the oceans and the equitable distribution of scarce natural resources.