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THESIS

THE STRAITS OF MALACCA AND SINGAPORE
THE NEGLECTED CHOKE POINT

by

Catherine Howes Osman

September 1987

Thesis Advisor: Stephen Jurika

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87 12 8 097

UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

1a REPORT SECURITY CLASSIFICATION UNCLASSIFIED	1b RESTRICTIVE MARKINGS
2a SECURITY CLASSIFICATION AUTHORITY	3 DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution is unlimited
2b DECLASSIFICATION/DOWNGRADING SCHEDULE	
4 PERFORMING ORGANIZATION REPORT NUMBER(S)	5 MONITORING ORGANIZATION REPORT NUMBER(S)
6a NAME OF PERFORMING ORGANIZATION Naval Postgraduate School	6b OFFICE SYMBOL (If applicable) Code 56
6c ADDRESS (City, State, and ZIP Code)	7a NAME OF MONITORING ORGANIZATION Naval Postgraduate School
8a NAME OF FUNDING/SPONSORING ORGANIZATION	8b OFFICE SYMBOL (If applicable)
8c ADDRESS (City, State, and ZIP Code)	7b ADDRESS (City, State, and ZIP Code)
	9 PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
	10 SOURCE OF FUNDING NUMBERS

PROGRAM ELEMENT NO	PROJECT NO	TASK NO	WORK UNIT ACCESSION NO

11 TITLE (Include Security Classification)
THE STRAITS OF MALACCA AND SINGAPORE THE NEGLECTED CHOKE POINT

12 PERSONAL AUTHOR(S)
Osman, Catherine H.

13a TYPE OF REPORT	13b TIME COVERED	14 DATE OF REPORT (Year, Month, Day)	15 PAGE COUNT
Master's Thesis	FROM _____ TO _____	1987, September	89

16 SUPPLEMENTARY NOTATION

17 COSATI CODES			18 SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	Strait of Malacca; Strait of Singapore; Malaysis; Indonesia; Singapore; Navigational choke point; Southeast Asia

19 ABSTRACT (Continue on reverse if necessary and identify by block number)

This thesis considers the Straits of Malacca and Singapore and the abilities of the littoral states to control the use of this navigational choke point during a crisis situation. Malaysia, Singapore and Indonesia have drastically improved the capabilities of their militaries in the past ten years. Together, they can deny the use of this key naval transit corridor to other navies. The region is considered from a historical and current perspective and the force build-up and capabilities are examined. The US and Soviet interest in the region is also considered. Conclusions are reached concerning the strategic value of the region and future US considerations.

20 DISTRIBUTION/AVAILABILITY OF ABSTRACT	21 ABSTRACT SECURITY CLASSIFICATION
☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT ☐ DTIC USERS	Unclassified
22a NAME OF RESPONSIBLE INDIVIDUAL Prof. Stephen Jurika	22b TELEPHONE (Include Area Code) (408) 646-2845
	22c OFFICE SYMBOL Code 56Jk

DD FORM 1473, 84 MAR 83 APR edition may be used until exhausted
All other editions are obsolete

SECURITY CLASSIFICATION OF THIS PAGE
UNCLASSIFIED

Approved for public release; distribution is unlimited

The Straits of Malacca and Singapore
The Neglected Choke Point

by

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Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN NATIONAL SECURITY AFFAIRS

from the

NAVAL POSTGRADUATE SCHOOL
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ABSTRACT

This thesis considers the Straits of Malacca and Singapore and the abilities of the littoral states to control the use of this navigational choke point during a crisis situation. Malaysia, Singapore and Indonesia have drastically improved the capabilities of their militaries in the past ten years. Together, they can deny the use of this key naval transit corridor to other navies. The region is considered from a historical and current perspective and the force build-up and capabilities are examined. The US and Soviet interest in the region is also considered. Conclusions are reached concerning the strategic value of the region and future US considerations.

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Unannounced	☐
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
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TABLE OF CONTENTS

I. INTRODUCTION ---------- 7

II. STRAITS OF MALACCA AND SINGAPORE--THE VIEW FROM THE LITTORAL STATES ---------- 12

A. GEOGRAPHY OF THE MAJOR STRAITS ---------- 12

B. HISTORICAL PERSPECTIVE--STRAITS REGION ------ 13

C. UNITED NATIONS CONVENTION ON THE LAW OF THE SEA III ---------- 21

D. CURRENT SITUATION ---------- 25

III. STRAITS OF MALACCA AND SINGAPORE--THE VIEW FROM THE NON-LITTORAL STATES ---------- 31

A. HISTORICAL PERSPECTIVE ---------- 31

1. Mining ---------- 37

B. CURRENT SITUATION ---------- 38

IV. FORCE COMPOSITIONS AND CAPABILITIES ---------- 41

A. INDONESIA ---------- 41

B. MALAYSIA ---------- 48

C. SINGAPORE ---------- 50

D. VALUE OF ARMS TRANSFERS IN REGION ---------- 54

V. ASSESSMENTS ---------- 60

A. LITTORAL STATES ---------- 60

B. UNITED STATES ---------- 65

C. USSR ---------- 68

D. OTHER FACTORS ---------- 70

1. Mining of the Straits ---------- 70

2. Policy Changes by Littoral Nations ------ 72

3. Miscellaneous ---------- 73

VI. CONCLUSIONS ---------- 75

APPENDIX: MAP OF SOUTHEAST ASIA ---------- 78

LIST OF REFERENCES ---------- 79

BIBLIOGRAPHY ---------- 83

INITIAL DISTRIBUTION LIST ---------- 87

TABLE OF ABBREVIATIONS

ADF	Asia Defense Journal
AEW	Airborne Early Warning
ASEAN	Association of Southeast Asian Nations
ASROC	Antisubmarine Rocket
ASW	Antisubmarine Warfare
CODOG	Combined Diesel or Gas Turbine
EEZ	Exclusive Economic Zone
EW	Electronic Warfare
FEER	Far Eastern Economic Review
GNP	Gross National Product
JDW	Jane's Defense Weekly
LOS	Law of the Sea
MADGE	Malaysian Air Defense System
MCM	Mine Countermeasures
NEP	New Economic Program
PDR	Pacific Defense Reporter
RMAF	Royal Malaysian Air Force
RMN	Royal Malaysian Navy
SAM	Surface to Air Missile
SSM	Surface to Surface Missile
TSS	Traffic Separation Scheme
UNCLOS	United Nations Convention on Law of the Sea
ZOPFAN	Zone of Peace, Freedom and Neutrality

I. INTRODUCTION

This thesis examines the military buildup in the littoral nations on the Straits of Malacca and Singapore and their ability to control the Straits. The Straits of Malacca and Singapore are the key navigational choke points in Southeast Asia, yet were not much more than a legal issue for US naval strategists until two decades ago. [Leifer, 1978, Ch. 5] Even today, strategists are more interested in the world's other choke points. These straits are literally neglected and little known choke points.

The Straits offer a safe, direct route between the Indian and the Pacific Oceans. The economic value of the Straits is immense. In 1983, 6570 foreign trade vessels entered peninsular Malaysian ports. In 1984, Singapore alone serviced 26,458 ships that discharged and loaded over 104,000,000 metric tons of cargo. [Europa Publications, 1985, pp. 615, 865] Alternate shipping routes would have added days to shipping times as well as a proportionate amount to the cost. Singapore, in particular, is dependent on Straits traffic for much of its economic livelihood.

The military value of the Straits is harder to define, but can be measured in time. Both the US and the USSR routinely use the Straits. They are key naval transit corridors for the forward-deployed US Seventh Fleet and an

economic, all-weather route between the Baltic/Black Seas and the East Asian coast for the Soviets. Both the US and the USSR agree that the Straits are international waters, not subject to control by littoral nations. Malaysia and Indonesia, however, consider the channels within their respective territorial control.

The current situation in the Western Pacific has drawn attention to the strategic value of the Southeast Asian water passages. The littoral states, Indonesia, Singapore, and Malaysia, have young governments sensitive to their geographic importance and to their standing in world affairs. They consider themselves significant factors in any strategic calculus for control of the Straits region. The US has long been involved in the Western Pacific but, until recently, had few commitments in Southeast Asia. The Soviets, on the other hand, have actively tried to influence events in the Straits states, with little success. The United Kingdom, as head of the Commonwealth, is interested in the region, but has not regained the influence it had prior to World War II. Australia has military bases on the Straits and active treaties with Malaysia and Singapore.

The three littoral states are among the world's fastest developing nations. The superpowers must consider them in any conflict, regional or otherwise, that requires naval passage. Their forces could be considered complementary and, if used jointly, could control the strategic initiative

in the early days of a non-nuclear conflict. No country, including the superpowers, can assume that it will have free access to the Straits between the Indian Ocean and the Pacific Ocean in time of war.

Over the years access to, and control of, the Straits have been a concern of many seafaring peoples. The Arab traders, the Portuguese, the Dutch and the British all had their turn at being the primary foreign influence. During World War II, the Japanese conquered the region as part of their plan to dominate the Western Pacific. After the Japanese were defeated, the major powers were involved in European reconstruction. This area was not of great importance, although the British Navy maintained forces in Malaya. The Dutch had military forces in Indonesia, but withdrew them when Indonesia gained independence in 1949. The United States had priorities elsewhere, particularly in the Philippines. The Soviets were not initially able to invest scarce resources so far from their homeland, although they did so later.

In 1963, Malaysia was formed. Just two years later, Singapore was invited to leave and form a separate state. Indonesia was openly hostile to both Malaysia and Singapore and attempted to dominate the region until 1966. The Soviets fueled the conflict and supplied military aid to Sukarno until the change in government in 1966, when they

were forced to withdraw and left without significant power in the region.

For the next nine years, the three countries worked at normalizing relations and stabilizing their positions. All were occupied with domestic concerns, but not to the exclusion of the international situation.

The Association of Southeast Asian Nations (ASEAN) was formed in 1967. In 1969, Malaysia and Indonesia reached agreement on the maritime issues dividing them, and in 1972 took a joint position on the customary status of the Straits. [Leifer, 1978, p. 30] By 1975, the littoral nations were cooperating militarily on a bilateral basis, and had begun a new military buildup and strategic development for the region.

Eleven years later, the military balance has shifted. My hypothesis is that the littoral nations of the Straits can control the strategic initiative in the region for all but a nuclear conflict. Their interests are based on their own national needs, not superpower desires.

The United States' national interest dictates an awareness of this region. To maintain a proper perspective, the significance of the Straits must be defined not only from a US position, but from that of other nations' as well. The military force compositions must be evaluated and the littoral nations' policies analyzed. Accordingly, this thesis will consider the preceding and will assess factors

that will be significant in the control of the Straits during conflict.

II. THE STRAITS OF MALACCA AND SINGAPORE-- THE VIEW FROM THE LITTORAL STATES

A. GEOGRAPHY OF THE MAJOR STRAITS

The Straits of Malacca and Singapore are located at the southern tip of Southeast Asia, between 6^{o}N and 1^{o}N, on the Sunda Shelf. The Strait of Malacca opens into the Indian Ocean on the northwest and into the Strait of Singapore on the east. Its funnel shape is bordered on the north by peninsular Malaysia, and on the south by Sumatra. The Andaman Islands are in line with the western outlet. Thailand is north of the northwestern edge of the Strait access. The main channel of the Strait of Malacca is approximately 260 miles long, and varies in width from 3 to 300 miles. [Johnston, 1978, p. 176] There are three places where the twelve mile territorial claims of Indonesia and Malaysia overlap, and several others where the channel is in one or the other's territorial waters. [Vertzberger, 1984, p. 4] Much of the main channel is relatively shallow. The main currents are steady but there are cross-currents, and tides vary with the seasonal winds. The bottom is primarily sand and rock and shifts frequently. [Johnston, 1977, p. 176] The Strait of Singapore flows from the Strait of Malacca to the Pacific Ocean, is 75 miles long, and no more than twelve miles wide. [Vertzberger, 1984, p. 4] It is bordered by Singapore on the north and the Indonesian

archipelago on the south and west. Its bottom is sand and rock, and also shifts periodically.

Four other major straits are entirely within Indonesian territory. The Sunda Strait, between Sumatra and Java, is the main passage between the Indian Ocean and the Java Sea and is approximately fifty miles long. It is the most direct sea link between Subic Bay in the Philippines and Diego Garcia, but is not suitable for very large ships because of its shallowness in several areas. [Leifer, 1978, p. 78]

The Makassar Strait and the Lombok Strait are complementary. The Makassar Strait flows north-south between Kalimantan and Sulawesi. The Lombok Strait links the Makassar Strait with the Indian Ocean. Their combined navigable width is eleven miles, their length is over 600 miles and they are suitable for submerged passage. [Leifer, 1978, p. 79]

The Ombai-Wetar Straits are in the lesser Sundas, and not much used for international traffic. They are suitable for submerged passage and have been used as an alternate deep water route for submarines enroute from Guam to the Indian Ocean. [Leifer, 1978, p. 79]

B. HISTORICAL PERSPECTIVE--STRAITS REGION

The Straits of Malacca and Singapore comprise the key navigational choke point in Southeast Asia and the most convenient maritime link between the Indian and Pacific

oceans. The Strait of Malacca has served as a marine corridor between the Indian Ocean and the South China Sea since the fifth century A.D. It was not used in conjunction with the Strait of Singapore as part of a direct trans-oceanic route until centuries later. [Leifer, 1978, p. 6]

The Chinese used the waterways for trading resins and spice with the Srivijaya empire, which controlled the Straits of Malacca and Sunda, from the seventh until the fourteenth century. The Majapahit empire maintained loose control of Java and the sea trade from the thirteenth century until the sixteenth. During that era, Arab traders introduced Islam, which became a unifying force, even though Hindu and Buddist influences remained.

Europeans discovered the Spice Islands, as the area was called, in the late 1500s. The Portuguese, in an attempt to dominate the region and to control the Strait of Malacca, established a settlement in Malacca in 1511. By the end of the century, however, they had lost their influence. The Dutch colonized Java and much of what is now Indonesia for trade purposes, but had to turn over their possessions to the British after the French revolutionary troops occupied the Netherlands in 1814. The English governed Malaya and the islands until the Indies were returned to the Netherlands in 1816. The English retained control of the Malay peninsula and what became the Straits settlements. Penang, Malacca and Singapore were valued for their strategic

locations on the Strait of Malacca. After several local wars, the Dutch regained control of their colony and then negotiated with the British to formalize the arrangement. The resulting treaty, which defined spheres of influence, was signed in 1824 and not revised until 1871.

Dutch rule was characterized by a series of bloody wars inspired in part by militant Islamic followers. Islam unified the Moslems, Nationalists and Marxists in the rebellion against the colonists in the straits region, particularly in Indonesia. The Nationalist movement started in the early 1900s. One of its members, Sukarno, joined the ranks of the leaders in the 1920s. He closely allied the movement with the Islamic leadership and the communists. The Dutch were not responsive to any of the groups' demands. When the colonists were evicted, it was not by the Moslems, Marxists or Nationalists but by the Japanese, who completed their conquest of the area in 1942. They wanted to control the strategic waterways through which they shipped so much of their war material. They also needed the natural resources, the rubber and the petroleum.

Sukarno, by then the leader of the Indonesian Nationalist Party which he helped found, cooperated with the Japanese occupation forces. Later he claimed that he had not collaborated so much as worked for independence. He was involved in extensive negotiations with the Japanese. During one of those sessions, he requested that the Malay

peninsula be incorporated with Indonesia. The Japanese rewarded him for his cooperation on 17 August 1945 by granting independence to all of the former Dutch East Indies, Timor, Borneo, and Malaya. As the new head of state, Sukarno was forced to hand over control of the government when the Europeans returned after the war. He continued as a leader of the independence movement and as a figurehead president. Sukarno was involved in the negotiations with the Dutch that granted republican rule of Java and Sumatra to the Central Indonesian National Committee. The Dutch insisted that Indonesians form a union with The Netherlands while other states were formed in the rest of Indonesia. The Dutch used a naval blockade in 1947 to stop the republican forces from spreading their influence and they nearly quashed the rebellion against Dutch rule. At the same time, different factions within the Indonesian republic fought among themselves. The result was another crackdown by the Dutch military to force peace, and submission to Dutch authority. It was not until January 1949 that the newly-formed United Nations urged the Dutch to relinquish control of the colony. On 1 July 1950, the Republic of the United States of Indonesia was recognized. It did not include Malaya, parts of Borneo or West New Guinea. In 1963 the Dutch ceded West New Guinea as Irian Jaya. Portuguese joined Indonesia in 1976.

Sukarno's administration was characterized by numerous problems and conflicts, one of which was inspired partly by a desire to control the waterways in the region. On 13 December 1957, Indonesia claimed all waterways in the archipelago as territory, extended its territorial claim to 12 miles, and used straight baselines to establish the new boundaries. Maritime nations were told that their ships would be granted innocent passage. Sukarno was openly hostile to Malaysia and Singapore for their Western leanings and for permitting foreign military bases. Under his "confrontation" policy, he initiated military action in Sabah and Sarawak and sent guerrillas into the Malay peninsula. Indonesia continued its territorial claims until 1966, when power passed to General Suharto and a peace treaty was signed. [Bunge, 1983, Ch. 1] The tensions in the region lessened since the new leadership no longer seemed to perceive that external forces were trying to limit Indonesian influence. [Leifer, 1978, p. 15]

Malaysia's colonial history was different. The Portuguese settled in Malacca as the power of the Sultanates was on the wane. The Dutch gained control in 1641, but ceded their authority to the British at the end of the next century. The British settled in Penang in 1786 because of its port and strategic location, at the western end of the Malacca Strait. With the establishment of Singapore in 1819, Britain had de facto control of the Straits. By 1909,

British Malaya consisted of the three ports known as the Straits Settlements, the four Federated Malay States and the five Unfederated Malay States. The British maintained control of the peninsula until the Japanese invasion in 1942.

After World War II, in 1946, all the British holdings on the peninsula except Singapore joined the Federation of Malaya. In 1948, the British declared a state of emergency that lasted 12 years. During that time, counterinsurgency forces fought communists who were primarily ethnic Chinese upset with the favoritism granted the native Malays by the government. The British granted the Federation independence in 1957. In 1963, Malaya, Singapore, Sabah and Sarawak joined to become Malaysia. At this time Sukarno started his "confrontation" policy which was supposed to prevent Malaysia from forming a federation and to encourage the Malays to join Indonesia. [Bunge, 1984, p. 4]

Singapore withdrew from the Federation in 1965 for ethnic reasons. Singapore's residents were predominantly Chinese. The rest of Malaysia was primarily Malay, with a large ethnic Chinese minority and a small Tamil group. The resentment of the native Malays against the Chinese created numerous problems for the young government. Finally, Prime Minister Tunku Abdul Rahman and Lee Kwan-Yew negotiated Singapore's withdrawal from the Federation, with the understanding that joint defense arrangements would be made.

The 1966 treaty ending the military conflict between Malaysia and Indonesia greatly benefited the two countries. Malaysia's racial problems were still of great concern to the government and military forces were needed for counter-insurgency actions. [Gullick, 1981, Ch. 11] Indonesia's economy was faltering and funds were needed elsewhere. The reduction in tensions was facilitated by the withdrawal of the Soviets and the unobtrusive support of Commonwealth forces. Additional agreements between the countries were driven by a common desire to reduce external threats from each other and by a need to compensate for the announced British withdrawal east of the Suez. The change in attitude was best exemplified by the Malaysian prime minister in 1968 when he stated that the military forces were for the maintenance of internal security. [Broinowski, 1982, Ch. 2] By the mid-70's, Malaysia and Indonesia were conducting joint operations against the guerrilla forces in Kalimantan. Indonesia's naval capability declined substantially during this period. The original Soviet equipment was neglected and not effectively used.

In 1967, the Association of Southeast Asian Nations (ASEAN) was formed. ASEAN was (and still is) a union intended to economically benefit its members: Thailand, Malaysia, Singapore, Indonesia, and the Phillipines--Brunei joined in 1984. Leifer states that the framework of ASEAN allowed Indonesia an opportunity to pursue "its regional

ambitions but within a willingly accepted contest of constraint that would protect the legitimate interests of its fellow member states." [Leifer, 1978, p. 28] No military pact linked ASEAN members, but separate bilateral agreements linked the governments.

The three littoral nations were deeply aware of the possibilities of external pressures in the region and the problems of internal subversion. In 1971, Singapore and Malaysia signed a treaty, known as the Five Power Pact, with the United Kingdom, Australia, and New Zealand for an integrated defense of the region. The Integrated Air Defense System supported the agreement that the defense of Singapore and Malaysia was indivisible. This led Indonesia to announce in 1975 that its foreign policy would opt for regional security based upon indigenous strengths and to reaffirm that the Indonesian military would be used for the defense of Malaysia if it were invaded. By 1975, Vietnam was ample proof that the US could not be considered a reliable ally against communist insurrection. [Krause, 1982, p. 27] In the same year, terrorist activity increased in the region. Malaysia and Indonesia both concentrated on building up their counterinsurgency forces and their arms buying was aimed at supporting those forces.

The economic situation was good for all three countries at the end of the 1970s. Cash was readily available for military procurement. The armed forces were all being

improved. As the guerrilla threat subsided, Malaysia and Indonesia were able to look outward. Bilateral defense agreements were renegotiated and new arrangements among the three were rumored, some confirmed publicly. Singapore maintained a pro-West policy while the other two maintained an anti-Chinese posture.

C. UNITED NATIONS CONVENTION ON THE LAW OF THE SEA III

In 1982, the Third United Nations Conference on Law of the Sea (UNCLOS III) concluded its work and presented its convention to the world community for ratification. The conference opened in 1973 and had its first major session in Caracas in 1974. During the sixth session, in 1977, the Informal Consolidated Negotiating Text was drafted. It became the basis for the new convention. The conference was nearly ended but the United States withdrew its acceptance of the convention in 1981 after the Reagan Administration took office. Among the issues in contention were the articles relating to deep sea mining. The conference members attempted to resolve the conflict, but failed. In 1982. the conference was terminated and the convention presented as it was. Although the United States did not accept the Convention, the President publicly stated on 10 March 1983 that the US would accept the articles that cover traditional navigational practice, which include the articles that cover archipelagic states, international straits, transit and

innocent passage, and the responsibilities of coastal states.

The articles referring to the archipelago concept have their roots in the Sukarno administration. As early as 1957, Sukarno claimed the waters around Indonesia as part of its territory. [O'Connell, 1982, p. 249] By 1960, the Indonesian concept of the archipelagic state was being discussed in international forums, but was unacceptable to the US, among others. The US was willing only to concede a three mile territorial sea around each island. The debate continued through the sixties and led to the item being placed on the agenda for UNCLOS III.

During the conference, the Indonesian delegation, under orders from Suharto, hammered out the navigational principles involved. By the time the session ended in 1977, the archipelagic concept had been developed, legitimized and accepted by both the archipelagic states and the maritime nations. Island nations were given considerable authority to govern waters defined as theirs. [Booth, 1985, p. 22] The definition was tailored for the Indonesian situation in such a way that the baselines that defined Indonesia created the largest archipelagic nation in the world. Indonesia has over 13,600 islands and an area of 4.8 million square kilometers, of which only 1.9 million are land. [Bunge, 1983, p. 67]

Although an archipelagic state has sovereignty over archipelagic waters, ships of all states have the right of innocent passage. [UNCLOS, Articles 49, 52] Additionally, the archipelagic state may designate sea lanes and air routes that include all normal routes used in international navigation. [UNCLOS, Article 53] Those routes are subject to the same rules as high sea travel, so passage through the straits exclusively in Indonesian waters (Sunda, Makassar/Lombok, and Ombai-Wetar) is governed in accordance with the articles of Part IV of the Convention. This concept has been acknowledged by the superpowers.

The Straits of Malacca and Singapore, on the other hand, are governed by Part III. It states, in part, that the regime of passage through straits used for international navigation does not affect the legal status of the waters. [UNCLOS, Article 34] The waters may be part of a state's territory, as are parts of the Straits where the channel is less than 12 miles from shore or part of two states' claim where the channel is less than 24 miles wide, but that does not change the laws governing international navigation through those waters. States bordering straits are allowed to regulate traffic within certain limits [UNCLOS, Article 42], but they are not allowed to suspend transit passage. [UNCLOS, Article 44] That includes submerged passage and overflights.

"Transit passage" is defined in Section 2 of Part III. It was a new concept presented as a compromise between free transit and innocent passage. It is defined as:

> the exercise . . . of the freedom of navigation and overflight solely for the purpose of continuous and expeditious transit of the strait between one part of the high seas or an exclusive economic zone and another part of the high seas or an exclusive economic zone. [UNCLOS, Article 38]

In other words, warships, submarines and aircraft which did not meet the requirements of innocent passage were allowed to transit international straits, but were subject to regulations that ships in free transit were not.

The concept was accepted by the maritime nations for practical purposes in April 1982. They agreed to a request by Malaysia, Singapore, and Indonesia to prevent vessels with less than 3.5 meters of under-keel clearance to transit the Straits of Malacca and Singapore. The maritime nations, by agreeing to the littoral nations' request, acknowledged that the Straits were subject to transit passage requirements and not to free transit, and that the littoral nations could regulate that passage within the bounds of the Convention. Maritime nations which formally endorsed the request also approved the littoral nations' responsibility to enforce such regulations. The United States confirmed acceptance of the request on 29 April 1982, during the eleventh session.

Part II also firmly established that the territorial sea extends twelve miles and is part of the sovereign territory

of a coastal state. [Cuyvers, 1984, p. 152] The coastal state does not have the right to suspend innocent passage in those waters. [UNCLOS, Article 45] However, passage is no longer innocent when it is prejudicial to the security of the coastal state. The definition of prejudicial was not spelled out and has not been tested in the waters of these three nations.

The Law of the Sea Convention, even though not ratified by the US, can be expected to have an effect on future naval operations in this region, but it will not fundamentally affect the use of naval power, especially by a superpower. [Booth, 1985, p. 7] Overall, the primary effect of UNCLOS III "will be to ensure that to a greater extent than ever before the sea will be seen as extension of the land." [Booth, 1985, p. 57] Nations that deal with the littoral states of the Straits of Malacca and Singapore will have to plan accordingly.

D. CURRENT SITUATION

Viewed by the littoral states, the current situation is mixed. There is good cooperation among the littorals. Passage through the Straits of Malacca and Singapore is in accordance with the regime of the Law of the Sea. The littoral governments accept transit passage and their responsibilities to maintain the Straits for international navigation. They do not openly state what their wartime position will be.

Indonesia no longer openly aspires to regional domination. The overall emphasis has shifted from intraregional antagonism to regional security. All three, Indonesia more so than the others, are attempting to remain securely in the non-aligned fold. Indonesia is an acknowledged leader in that movement. Although there are still complex racial problems, the internal security threat has lessened and the governments can focus on the international scene. All are aware that much of their international importance derives from their geographic position on one of the world's major choke points.

Malaysia and Indonesia have similar policies with regard to the Straits. They run regular joint naval exercises as part of their mutual defense agreements. They have recently renewed their agreement to continue military cooperation on their land borders, as well. They both request prior notification of naval passage. They have not indicated that they would confront either superpower during a conflict, but neither have they guaranteed support to either side. Malaysia is still a strong proponent of the ZOPFAN (Zone of Peace, Freedom and Neutrality) concept, but the push for a nuclear-free zone has limited support from the littorals.

Malaysia and Indonesia run joint patrols in the battle against pirates and smugglers. Pirates have intercepted ships in the Straits and robbed them of their cash and easily-sold cargo. This naturally concerns shippers and

governments alike. The pirates operate small, fast craft in the southern exits of the Straits, where attacks occur frequently. Singapore and Malaysia use integrated maritime forces to fight the problem. Indonesia has a second problem area in the Sulu Sea. [Moore, 1986, p. 138] The patrols have helped, but piracy still exists.

Problems posed by the influx of refugees continue. There is a fear that some of the refugees are a security threat, a Chinese fifth column. Consequently, ethnic Chinese refugees are regarded with suspicion and sometimes with hostility. The primary problem, though, is the socio-economic impact of the refugees on the local economy. The cost of caring for the refugees is often more than populace is willing to absorb. Additionally, the refugee population is neither Malay nor Moslem and that contributes to ethnic antagonisms.

The racial situation has improved, for the most part. In Malaysia, the New Economic Program (NEP) has helped balance the distribution of wealth and business ownership, but target dates will not be met because of the downturn in the economy. Regardless, the Malays now own more of the businesses than they did and the Chinese own less. The forced change in the economic situation of the Chinese coupled with the wave of resurgent Islam have led the authorities to fear strife between the Chinese and the Moslems.

Singapore, Malaysia and Indonesia are cooperating to make the Straits as safe as possible. Navigation safety has improved in spite of the shallow, irregular depths. Poor visibility is often a problem, especially when the traffic volume is high. Consequently, the littorals ensure that the Traffic Separation Scheme (TSS), approved in May 1981, is used. Its provisions include restricting passage to vessels with more than 3.5 meters clearance, and draughts less than 15 meters. Speed is limited to twelve knots. They also cooperate on pollution safeguards. The largest supertankers do not use the Straits, but transit one of the deeper Indonesian straits. Indonesia is developing the port capabilities to service those ships.

Singapore is much more interested in freedom of navigation on the Straits than the other two littoral states. Singapore's priority is maintaining the traditional rights of navigation in the Straits without adversely affecting the interests of the other littoral states. Its economy is dependent upon maritime traffic. While Singaporeans make common cause with Malaysia and Indonesia with respect to navigational safety and pollution control, they are aware that ingress and egress to their commercial port facilities lie in Malaysian and Indonesian territorial waters. [Leifer, 1978, p. 34] Their economic policy for the use of those facilities is pragmatic. Services are available to those who pay. Consequently, Soviet ships are serviced

along with Western ships. This does not affect Singapore's pro-West stance.

The excellent economic situation at the end of the last decade has declined. The fall in oil prices adversely affected all three economies. Indonesia and Malaysia lost much needed income from the sale of oil, while Singapore's oil refineries are not being utilized at capacity. Meanwhile, the commodity export markets have softened and the demand for rubber, tin, sugar and agricultural products has decreased. Even the electronics market is soft. The drop in semiconductor prices has been felt in both Singapore and Malaysia. In 1985, for the first time since 1967, Singapore's economy shrank by 1.8% [Jackson, 1986, p. 3]. The government was forced to cut expenditures.

Malaysia's GNP grew in 1985 at less than half the 1984 rate [Jackson, 1986, p. 6]. The contracting economy caused problems among ethnic groups, but the government response has been pragmatic. The target dates for the NEP have been changed. [Jackson, 1986, p. 9] One of the results is a cut in defense expenditures for new equipment.

Economically, Indonesia has the most problems. Revenue from oil exports had been subsidizing the industrialization program. Without that income, the budget has been cut drastically and the industries supported by that money have been unable to make up the shortfall. [Jackson, 1986, p. 11] As in Malaysia, severe government cutbacks may lead to

ethnic disharmony. The ethnic Malays expect their living standards to improve. There is resentment against the minority ethnic groups that are economically better off than the majority populace. This, coupled with Islamic resurgence and normal ethnic hostilities, has created a difficult situation for the governments of Malaysia and Indonesia.

III. STRAITS OF MALACCA AND SINGAPORE-- THE VIEW FROM THE NON-LITTORAL STATES

A. HISTORICAL PERSPECTIVE

The involvement of non-littoral states in the region dates back several centuries. The area has always been vulnerable to external naval force, and relatively defenseless against foreign maritime forces. The Dutch navy routed the Portuguese in the thirteenth century. The British used their superior navy to extend the empire's control over the Malay peninsula and Indonesian islands. The Japanese navy conquered the area during World War II but could not maintain control toward the end of the war, partly because of the mining campaign. Britain returned after the war and successfully reoccupied its prewar realm because of its naval forces. The Dutch blockaded the new Indonesian republic which had been declared by Sukarno just before the Japanese surrendered. National independence became a reality only after the Dutch ended their blockade and allowed the UN-arbitrated settlement to become effective. Indonesia's ineffective navy was also a factor in the dispute with Holland over West New Guinea. [Leifer, 1978, p. 16]

The British were strong supporters of the Malays and ensured that the new nation had a good start. Even after Malaysia was established, the British maintained naval

forces. Indonesia's "confrontation" policy stimulated the British to build up additional naval forces in Singapore. In September 1964, the British demonstrated their support of the young Malaysian government by sending the strike carrier HMS Victorious through Lombok Strait. It was an exercise in coercive diplomacy. [Leifer, 1978, p. 16] The move also demonstrated that Britain did not support Indonesia's claim that all waters were territorial and subject to Indonesian sovereignty. The British and other western navies would not support any infringement on freedom of the seas.

The Soviets in Southeast Asia had no naval forces of any importance. Consequently, they backed the Indonesian initiative to restrict naval activities in the waters Indonesia claimed were territorial. They granted extensive military credits to Sukarno, some of which were used to build up his naval forces. Soviet military advisors were forced to leave, though, when General Suharto took over in 1966.

Soon after the British announced their accelerated withdrawal east of Suez in January 1968, the Soviets made their first transit of the Straits of Malacca and Singapore enroute to the Indian Ocean. During this same period, the US expressed interest in developing Diego Garcia, a British holding. Indonesia was concerned about what they considered "the naval interest demonstrated by the superpowers in passage between the Pacific and Indian oceans in competition

with one another" and the possibility of becoming "entangled in the maritime dimension of superpower conflict." [Leifer, 1978, p. 17]

On 2 August 1969, the Malaysian government extended its territorial claim to 12 miles, using straight base lines. This ensured a more equitable basis for discussion with Indonesia on maritime issues. It also ensured that the maritime nations of the world must consider the status of the Straits of Malacca and Singapore. The Soviets responded in September with an aide memoire that objected "to the indiscriminate extension of territorial seas." [Leifer, 1978, p. 107] This was a major change from the position they had taken earlier when the Indonesians had made the same announcement. The Soviets made a point of differentiating between territorial seas and straits used for international navigation.

By the 1980s, the US, UK and the USSR agreed that the Straits of Malacca and Singapore were used for international navigation and that all ships had the right of unimpaired passage. The PRC disagreed and supported Malaysia and Indonesia's claim to a twelve-mile limit. Ironically, both countries were suspicious of the Chinese support for their position. [Moulton, 1973, p. 192] The maritime powers did not agree it was in Malaysia and Indonesia's national interest to control the Straits and did not accept the argument that the waters were territorial. Malaysia and Indonesia

noted that they would permit innocent passage of all ships. The principle of innocent passage reserved for Malaysia and Indonesia the right to stop and search any vessel passing through the Straits. The US protested.

In April 1971, during the Indo-Pakistani war, the US tested the principle of free passage through international waters. The USS Ticonderoga and battle group sailed through the Straits enroute to the Indian Ocean. In September, the USS Enterprise and battle group transited the Straits to the Indian Ocean. In neither case was permission asked or granted. In accordance with the US policy concerning international waters, the US considered the air space over the center of the Straits to be international also and filed flight plans accordingly. Neither Indonesia nor Malaysia interfered with the US passage.

In March 1972, the USSR publicly announced its opposition to the joint Indonesian/Malaysian position on the Straits. Now that they were also a naval power, they regarded the Straits as an international waterway. [Leifer, 1978, Ch. 4] The chairman of the US Joint Chiefs of Staff, Admiral Thomas J. Moorer agreed with the USSR, and insisted on "freedom of passage for his country's naval vessels through the Straits regardless of Indonesia's and Malaysia's claim" and, more importantly, said that their claim "constituted one of the most serious problems that the

American government was dealing with and [was] the subject of intensive negotiations. [Leifer, 1978, Ch. 4 footnote]

The problem had not been resolved before the next pronouncement. In January 1973, Malaysia announced that it:

> rejected the right of warships to pass through the Straits of Malacca and Singapore without the prior authorization of the coastal states, arguing that by the very nature of a warship its passage anywhere could not be 'innocent.' [Leifer, 1978, p. 119]

The maritime powers objected.

The US response was based on the principle of freedom of the seas. Prior to the Yom Kippur War, the US had a limited interest in the Straits, except for its legal status. After the war, US strategists were aware of the need to freely enter the Indian Ocean. In October 1973, the USS Hancock and a task force went through the Straits without notifying the littoral states. Besides showing the flag, the US wished to show that they expected freedom of transit and that they would use that freedom to transit "in moments of crisis to protect American interests around its littoral." [Leifer, 1978, p. 123] After that show of force, the US did not force the issue again, although the USS Ranger transited during the Entebbe hostage crisis in July 1976.

In 1974, the US decided to build up the base in Diego Garcia. That caused the Sunda Strait to assume new importance, since it is the shortest route between Diego Garcia and Subic Bay. The US disengagement from Vietnam occurred at the same time. The loss of facilities in

Vietnam spurred interest in the Indian Ocean littoral and the routes that led into the Indian Ocean.

The United States and the Soviet Union argued at the Second Session of UNCLOS III for freedom of passage in straits used in international navigation. This included the right of overflight and submerged passage. [Leifer, 1978, p. 129] The geography of the Straits of Malacca and Singapore defused the issue of submerged passage due to the shallowness of the channel in so many places, but the general principle was debated since submerged passage was possible in the Indonesian straits. Too, the right of overflight was a major concern to the United States. Both the USSR and the US agreed to accept the twelve mile territorial limit, but not where it covered the Straits. [Leifer, 1978, p. 94]

The issue of submerged passage was especially interesting. Leifer states that:

> since 1966 what might be described as a de facto alliance has evolved between Indonesia and the United States. Despite the general principle that has been adopted with respect to the great powers and freedom of navigation, the Indonesian government has been tolerant of the U.S. maintenance of a naval presence within Southeast Asia. [Leifer, 1978, p. 153]

This agreement evolved between the two countries in spite of the 1958 Geneva Convention that submarine passage is innocent only if the submarine surfaced and showed its flag. Leifer believes that the US Navy gives the Indonesians notification without divulging the exact position of the

submarines. This compromise satisfies the US strategic requirement for secrecy and the Indonesian territorial claim.

In 1977, the US reaffirmed its intention to maintain a strategic presence in the Southeast Asian region. The Reagan administration has not changed that stance.

1. Mining

The Straits of Malacca and Singapore became a focus of military interest during World War II, when they were minded. Penang, on the northwestern opening of the Strait of Malacca was used as a submarine based by the Japanese and the Germans. The RAF started mining the entrance to the port in Penang on a regular basis in October 1944. The campaign was successful and port activity was slowed. The Germans moved their submarines to Batavia (Jakarta).

In January 1945, the Allies campaign to cut Japan off from its war supplies began in earnest. B-29s "sowed hundreds of magnetic mines in the approaches to Singapore . . . in an opening move to block Japan's sea lanes, cut her pipelines and empty her rice bowls." [Lott, 1959, p. 206] The RAF mined Singapore again in March. The magnetic mines prevented the use of iron ships on the Bangkok-Singapore run, but not before Japanese merchant ships were sunk. When the Japanese switched to wooden ships, the Allies laid acoustic mines. Shipping via the Straits of Malacca and Singapore dropped off substantially.

Arnold Lott observes that the successful mining operation is not necessarily measured by the tonnage sunk. The absence of shipping in the mined areas is a much more important indicator of success. [Lott, 1959, p. 215] The Allied campaign was successful on both counts.

Lessons learned from that experience are rather straightforward. The Straits are easy to mine. The bottom is sandy and quickly covers mines. The Straits are shallow enough to force ships into narrow channels that are more easily closed by mines. Littoral armed forces must have good countermine capabilities or mining will be just as effective now as it was then.

B. CURRENT SITUATION

The Straits of Malacca and Singapore are strategically significant to the superpowers. As Kusumaatmadja and Damisaputro point out it is "a natural passage for navies seeking access from the Pacific to the Indian Oceans and back." [Johnson, 1978, p. 174] The strategic value is apparent when measured as time to deploy from one ocean to the other. A ship transiting from Japan to the Persian Gulf would need 9% more time to go through the Sunda Strait, 18% more through the Makassar/Lombok Straits and 23% more through the Ombai-Wetar Straits. [Vertzberger, 1984, p. 11]

The United States routinely uses the Straits of Malacca and Singapore as a primary naval transit corridor for the forward deployed Seventh Fleet. The USSR depends on the

Straits for an economic, all-weather route for Baltic/Black Sea fleets sailing to the Asian east coast. Ships out of Vladivostok use the Straits to reach the Indian Ocean. Alternate passages include the Straits of Sunda and Lombok/Makassar, which are longer and under exclusive Indonesian control.

The East Asian countries, Japan especially, rely on tankers bringing oil through the Straits of Malacca and Singapore. Very large ships use the alternate channels out of necessity, not for economic reasons. Merchant ships utilize the Straits because it is the shortest route.

The littoral states have signed the LOS Convention. The United States, which did not, has abided by the articles that affect Straits waters, but has not indicated if it would do so during a conflict. The United States still has two major policy concerns with respect to the region. One is "the maintenance of the efficacy and credibility of its second-strike nuclear capability" [Leifer, 1978, p. 161] and the second is maintenance of the free transit status of straits traditionally used for international navigation.

The Soviet Union, according to a presentation made at the Seventh American-Soviet Conference on Asia held in Tahoe, California in May 1986, stated that Southeast Asia is an extremely important area and that the USSR intends to actively develop its trade and economic relations. More importantly, the Soviets are "interested in ensuring the

safety of the international trade sea routes passing through Southeast Asia." [Chufrin, 1986, p. 10] The Collective Asian Security System that the Soviets proposed has not been a success, largely because the littoral nations are aware of the Soviet support for the Vietnamese and the Vietnamese occupation of Kampuchea. Nevertheless, the Soviets intend to improve their relative standing in Southeast Asia. Gorbachov has made this a priority. [Nations, 14 August 1986, p. 30]

IV. FORCE COMPOSITIONS AND CAPABILITIES

The first part of Tables 1, 2 and 3, for each country, shows the force composition in 1971. [Sellers, 1971] The second part shows the force composition in 1976. [Sellers, 1976] The third part shows the Battle Orders as of 1985. [Copley, 1986] Each table is preceded by comments relevant to the hypothesis.

A. INDONESIA

According to Jones and Hildreth [Jones, 1984, p. 27], Indonesia's defense policy is intended to deter invasion and smother insurrections with a mobile army, a strong navy and a strong air force. Its current order of battle supports that argument, especially if one notes the long term development of the military. In 1966, most of the Indonesian inventory was Soviet-supplied, but after the change in governments, the sources of military equipment were diversified. The Navy especially benefited from this policy. Between 1970 and 1976, there was little change in the complexion of the fleet. For the next four years, the change was gradual, but important. In 1980, a twenty-year plan was launched to change the character of the Navy. Frigates, submarines and fast attack craft have been added to the inventory. The Navy is purposefully developing the capability to do more than coastal defense. The

acquisitions are offensive. According to Jane's, all major surface ships are being fitted with missiles [Moore, 1986, p. 252]. The two mine warfare vessels will broaden the fleet's capabilities as well since they are capable of laying mines as well as hunting and sweeping.

Currently operational are frigates built by the US, the USSR, Yugoslavia, the Netherlands, and the UK. The CODOG-powered frigate from Yugoslavia is equipped with SSMs, guns, and a helicopter pad, and is used for training. The second one should be on line soon. The three Tribal class frigates from Great Britain have WASP helicopters. [Moore, 1985, p. 38]

The Indonesians added submarines in 1977 and currently have two Type 209 class, with another two on order. Their third submarine is an old Soviet Whiskey class which is probably not seaworthy. According to Jane's, the planned strength is six. [Moore, 1985, p. 39]

Their other vessels come from a variety of sources. Some are old, but will be maintained until no longer practical. The emphasis on coastal defense is evident because patrol craft are a high priority. The four SSM-armed 290-Ton fast attack craft are from South Korea. The two gun-armed 396-Ton fast attack craft are from South Korea. The two gun-armed 396-Ton fast attack craft are from West Germany, with an option to build six more in Surabaya. The two Tripartite-class minesweepers indicate that the Navy is

aware of the danger from mines. [Moore, 1985, p. 39] There are plans to build four coastal minesweepers. [Moore, 1985-86, p. 160]

Of interest is the significant arms industry being developed within the country. Indonesia has developed or will shortly have the capability to manufacture (either alone or in coproduction) the following: CASA C-212 Aviocars, CN-235 (twin-turboprop transport), BO-105 helicopters, SA-330 Pumas, AS-232 Super Puma, Bell 412, Pazmany PL-2 (light two-seater), Kawasaki BK-117 helicopter, rockets, torpedoes, missiles, small arms (many types), and patrol boats. Additionally, a major agreement between the Dutch and the Indonesians established a maintenance center for the repair and upkeep of naval vessels. [International Defense Intermetrics]

The current shopping list includes advanced fighter aircraft, light tanks, an extensive command and control system, submarines and additional ships. [DMS, Indonesia, 1985] In August 1986, Indonesia agreed to purchase twelve F-16s for delivery in 1988. Nusantara Aircraft Industry, the country's aircraft manufacturing company, will produce the basic airframe, the engine and some of the avionics, under a General Dynamics offset deal. General Murdani favored the F-16, partly because it makes possible a joint maintenance program with Thailand and Singapore, who have agreed to purchase the same aircraft. [Chanda, 26 September 1986, p. 29]

TABLE 1

INDONESIA

(a) Order of Battle, 1970

NAVY

Manpower	40,000 men (including 14,000 Marines)
Principal Equipment	<u>Ships</u> 1 cruiser 8 destroyers 11 frigates 12 submarines 3 corvettes 6 fleet minesweepers 21 motor torpedo boats 18 motor gunboats 9 patrol vessels 10 coastal minesweepers 25 small patrol craft 12 missile boats 8 landing ships 10 landing craft 2 training ships 2 survey vessels 4 oilers 4 transports 3 depot ships <u>Aircraft</u> 20 MIG-19s and MIG-21s 5 HU-16 ASW 4 PBY-5A ASW 12 S-55 helicopters 4 S-58s 4 Mi-4s 3 Aero Commanders <u>Missiles</u> Styx

Source: [Sellers, 1971, pp. 114-115]

TABLE 1 (CONTINUED)

(b) Order of Battle, 1976

NAVY

Manpower	40,000 men (including 14,000 Marines)
Principal Equipment	<u>Vessels</u> 1 cruiser 8 destroyers 18 submarine chasers 7 frigates 5 submarines 3 corvettes 5 fleet minesweepers 21 motor torpedo boats 18 motor gunboats 9 patrol vessels 14 coastal minesweepers 25 small patrol craft 9 missile boats (Styx) 8 landing ships 10 landing craft 2 training ships 2 survey vessels 4 oilers 4 transports 3 depot ships <u>Aircraft</u> 24 MIG-19/MIG-21s 5 HU-16s ASW 20 Il-14 bombers 12 S-55 helicopters 4 S-58s 4 Mi-4s 3 Aero Commanders <u>Missiles</u> Styx

Source: [Sellers, 1977, p. 100]

TABLE 1 (CONTINUED)

(c) Order of Battle, 1985

Naval Battle Order

Manpower	42,500 (includes 12,000 Marine Corps and 1,000 Naval Air Arm)
Principal Equipment	Fleet

Frigates
- 4 ex-US Claude Jones-class
- 3 Fatahilah-class with Exocet
- 3 ex-British Tribal-class
- 2 ex-USSR Riga-class
- 1 Pattimura-class
- 1 Hejar Dewartaru-class training frigate

Submarines
- 2 West German Type 209
- 1 ex-Soviet Whiskey-class (with 1 in reserve)

Light Forces
- 6 Australian Carpentaria-class
- 4 ex-Yugoslav Kraljevica-class
- 4 PSK Mk.5-class with Exocet
- 5 ex-Australian Attack-class
- 5 ex-Soviet Kronstadt-class
- 2 Lurssen TNC-45 FAC
- 2 Spear-class patrol boats
- 4 Golok-class patrol boats

Mine Warfare Forces
- 4 ex-Soviet T-43-class ocean minesweepers

Amphibious Vessels
- 6 Teluk Semangka-class LSTs
- 5 ex-US LST-542-class
- 8 Indonesian LSTs
- 38 CLM

Miscellaneous Vessels: Survey ships (4), auxiliaries and repair ships (3), replenishment oilers (3), tugs (5), sail training ship (1), navigational aid tenders (5), experimental jetfoil (1).

TABLE 1 (CONTINUED)

Main Naval Bases
Gorontalo
Kemajaran
Surabaja
Jakarta

Source: [Copley, 1986, p. 335]

B. MALAYSIA

At independence, Malaysia's military utilized British arms, French helicopters, and Canadian transports. The force level was small, but rapidly increased to counter the Indonesian and internal threats. There was no pressure to acquire large weapons systems immediately because the Commonwealth forces provided additional security.

Malaysia wished to acquire fighter aircraft and attempted to deal with the British and the French for their proposed purchases. The US pressured both the UK and France not to make the sale because of the Philippine/Sabah issue. This caused Malaysia to diversify its sources for military equipment and resent superpower interference. In 1969, Malaysia accepted ten obsolescent Sabres from Australia on the condition that Australia station two squadrons of Mirage IIIs at Butterworth. (Australia recently announced that it will withdraw its fighters.) Finally, in 1972, the US authorized the sale of F5E Tiger IIs and Sidewinders and in 1974, five C-130s.

Malaysia has recently taken delivery on forty refurbished A-4s. Singapore did the electronic rework after the US refused. The Malaysian Air Defense Ground Environment (MADGE) system, built by Hughes, is now operational and can integrate a 3-D long-range radar with advanced data processing and new communications system. Its range covers all Malaysian air space of concern.

Since 1962, France has been the primary supplier of helicopters. The UK is still a major supplier, but significant purchases have also been made from Belgium, FRG, Italy, Indonesia, Sweden and Switzerland. Negotiations are continuing with the USSR for the purchase of Mi26 military transport helicopters. The ideal is unlikely because of the maintenance arrangements the Soviets are proposing. ["Uplifting Thoughts," FEER, 18 September 1986, p. 13] The new fleet air arm will support the frigates that have aviation capability. [Moore, 1985, p. 36]

The Navy has grown from 1000 to 9000 men in just 14 years, with a projection for 15,000. A new naval base, Lumut, has been completed on the Strait of Malacca. Four missile craft (265 Ton) were built in France during the 1970s and four more were built in Sweden at the end of that decade. The French craft have two Exocet SSMs and the Swedish four. The three logistic support ships are, according to Jane's "a sensible investment for navies in Southeast Asia increasing the flexibility of smaller vessels in an area notable for long passage distances." [Moore, 1986, p. 140] Ten fast attack craft with Exocet capability are on order. A total of eight MCM ships are planned. Those in service carry two 40mm guns instead of the usual single 20mm gun. Two 1800-Ton support ships were commissioned in 1984 for training and light craft support duties. [Moore, 1985, p. 36] South Korea built a small underway

replenishment tanker while two tank landing ships were ordered from South Korea and will replace two World War II ships. Another frigate is currently on order, as are several other craft. [DMS, Malaysia, 1985]

Military personnel are studying AEW, EW, ASW, and submarine warfare with various navies. Discussions about medium range diesel-electric submarines are being held, and the Malaysian Navy is prepared to look beyond basic coastal defense. [Moore, 1985, p. 36]

C. SINGAPORE

Singapore's military build-up has been the most dramatic. In 1966, they had no navy. Two years later, the navy had 50 personnel and one craft. By 1971, the armed forces totalled 14,800, of which the Navy had 500. By 1977, the Navy had 1000 men, and added patrol boats and landing craft. In 1985, the Navy counted 4700 regulars and had vessels capable of interdiction as well as local defense. The naval expansion was part of its "'poisoned shrimp' strategy . . . [which] promises to inflict serious damage through forceful retaliation on any small or middle-sized power that might attempt to overcome Singapore." [Wu, 1972, p. 14]

Singapore is focusing on air defense and has improved its capability by adding British Rapier SAM launchers and Hawk missiles. More significantly, acquiring four Grumman E-2C Hawkeyes for airborne early warning represents a

TABLE 2

MALAYSIA

(a) Order of Battle, 1970

NAVY

Manpower	4,000 men
Principal Equipment	Ships
	2 frigates
	6 coastal minesweepers
	2 inshore minesweepers
	24 patrol craft
	4 fast patrol craft
	1 training tender
	1 survey vessel
	1 repair boat
	4 motor torpedo boats
	23 landing craft
	Missiles
	Seacat

Source: [Sellers, 1971, p. 158]

(b) Order of Battle, 1975

NAVY

Manpower	4,000 men
Principal Equipment	Vessels
	2 destroyer escorts
	1 ASW frigate with Seacat missiles
	6 coastal minesweepers
	24 patrol craft
	4 fast patrol boats
	1 training tender
	1 survey vessel
	1 repair boat
	4 motor torpedo boats
	20 landing craft
	Missiles
	Exocet
	SS-11
	SS-12

Source: [Sellers, 1977, p. 140]

TABLE 2 (CONTINUED)

(c) Order of Battle, 1985

NAVAL BATTLE ORDER

Manpower	11,000 (15,000 planned)
Reserves	1,000

Fleet

Frigates*
1 Yarrow type (with Seacat)
1 UK type 41/61

Light Forces
4 Perdana class FAC (with Exocet SSM)
4 Hadalan M FAC (with Exocet SSM)
9 Brooke Marine 29-meter patrol boats (under construction)
22 large patrol craft
6 Jerong FAC

Mine Warfare Forces
2 ex-British Ton class coastal minesweepers
4 Italian Lerici-class mine hunters (under construction)**

Amphibious Forces
2 ex-US LSTs

Miscellaneous
1 diving tender; 18 police launches (PX class); 6 launches (improved PX class) of which 4 operated by police; 6 patrol craft; 1 ex-British Ton class survey vessel.

Naval Aviation
3 C-130H-MPs used for Maritime patrol

*Also 2 type FS 150D (with Exocet) with 2 more planned
**2 commissioned December 1985

TABLE 2 (CONTINUED)

NB
2 missile corvettes
6 patrol craft
4 minehunters (on order)

Bases
Johore Straits
Labuan (under construction)
Lumut Perak

Source: [Copley, 1986, pp. 464-465]

dramatic increase in air defense capabilities. Singapore can monitor with ease all Straits traffic at the southern choke point. The Air Force plans to modernize its forces with the purchase of the F-16, but there is still ag roup which favors the F/A-18 because it has a greater combat radius, faster acceleration and more advance avionics. The avionics include an onboard computer system which can be operated with the E2C Hawkeye.

Singapore has developed a very large defense industry, mostly producing sophisticated items with relatively low prices. Only its shipbuilding industry is currently in a slump. Singapore Aircraft Industries is doing particularly well, especially in refurbishing A-4 Skyhawks.

D. VALUE OF ARMS TRANSFERS IN REGION

Table 4 illustrates the following points:

- Indonesia has the highest military expenditures, but Singapore and Malaysia spend a higher percentage of their GNP
- Indonesia has the lowest GNP per capita
- Indonesia has been the major importer
- Singapore spends about one-fifth of its government budget on its armed forces
- Singapore has been a consistent arms exporter, but the amount is insignificant compared to total exports
- If additional information is needed, the SIPRI yearbook details precisely what equipment has been brought from whom in specific years.

Figures are from the US Arms Control and Disarmament Agency.

TABLE 3

(a) Order of Battle 1970

NAVY

Manpower	500 men
Principal Equipment	Ships 2 seaward defense boats 6 patrol boats

Source: [Sellers, 1971, p. 212]

(b) Order of Battle 1976

NAVY

Manpower	1,000 men (Reserves of 500)
Principal Equipment	Vessels 2 seaward defense boats 9 patrol boats (Gabriel SSM) 1 landing ship 4 landing craft 3 miscellaneous small craft

Source: Sellers, 1977, p. 187]

(c) Order of Battle 1985

NAVAL BATTLE ORDER

Manpower	4,700 regular
Principal Equipment	Fleet Light Forces 6 Vosper Thornycroft 33.5 meter design; 3 each Type A and B fast attach craft 12 Swift-class coastal patrol craft 6 Lurssen designed TNC-45 class some with Gabriel missile 2 large patrol craft

TABLE 3 (CONTINUED)

Amphibious
6 ex-US LST type
2 ex-Australian RPL type
4 Ayer Chawan-class RPLs

Minewarfare
2 ex-US Redwing class coastal minesweepers

Training Ships
1 Ford class large patrol craft
1 250 ton ex-patrol craft

NB
The Marine Police also operate a number of vessels including 4 Vosper Thornycroft PX-class, 20 Vosper (Private) PC-32 class, and 19 new construction (PX) patrol craft.

NB
3 more TNC-34 fast attack craft on order.

Base
Singapore

Source: [Copley, 1986, p. 653]

TABLE 4

MILITARY EXPENDITURES, ARMED FORCES, GNP, CENTRAL GOVERNMENT EXPENDITURES AND POPULATION, 1973-1983, BY REGION, ORGANIZATION, AND COUNTRY

Year	Military Expenditures (ME) ($ Million) Constant 1962	Armed Forces (Thousand)	Gross National Product (GNP) ($ million) Constant (1962)	Central Government Expenditures (CGE) ($ Million) Constant 1982	ME/GNP (%)	ME/CGE (%)	GNP Per Capita Constant 1982 Dollars
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
INDONESIA							
1973	1528	310	48615	8837	3.1	17.3	371
1974	1659	270	51476	10080	3.2	16.5	384
1975	2218	260	54098	12390	4.1	17.9	394
1976	2191	257	58580	14309	3.7	15.3	421
1977	2233	260	63212	13853	3.5	16.1	445
1978	2386	250	67776	15896	3.5	15.0	467
1979	2488	250	71085	18185	3.5	13.7	480
1980	2615	250	77771	20604	3.4	12.7	514
1981	2955	265	85017	24370	3.5	12.1	551
1982	2843	280	87198	21176	3.3	13.4	537
1983	2542E	280	89693	18516E	2.8	13.7	541
MALAYSIA							
1973	545	70	13522	3366	4.0	16.2	1146
1974	636	75	14561	4007	4.4	15.9	1203
1975	726	76	14887	4765	4.9	15.3	1200
1976	682	80	16484	4956	4.1	13.8	1298
1977	896	79	17730	5822	5.1	15.4	1363
1978	729	82	18783	5795	3.9	12.6	1412
1979	811	82	20513	5649	4.0	14.4	1497
1980	1004	83	22321	7676	4.5	13.1	1594
1981	1469	90	23954	10767	6.1	13.7	1675
1982	1523	95	25248	12655E	6.0	12.0	1717
1983	1373E	105	26200	11618E	5.2	11.8	1746

TABLE 4 (CONTINUED)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SINGAPORE							
1973	379	24	7418	1706	5.1	22.2	3372
1974	362	24	7842	1628	4.6	22.3	3564
1975	416	27	8475	2053	4.9	20.3	3684
1976	487	35	8971	2149	5.4	22.7	3900
1977	594	36	9625	2339	6.2	25.4	5185
1978	565	64	10604	2479	5.3	22.8	4610
1979	563	57	11528	2696	4.9	20.9	5803
1980	666	50	12254	3228	5.4	20.6	5106
1981	731	59	13546	4173	5.4	17.5	5644
1982	841E	60	14507	4231	5.8	19.9	5803
1983	916E	60	15798	5359E	5.8	17.1	6319

VALUE OF ARMS TRANSFERS AND TOTAL IMPORTS AND EXPORTS, 1973-1983
BY REGION, ORGANIZATION, AND COUNTRY

Year	Arms Imports ($ Million) Constant 1982	Arms Exports ($ Million) Constant 1982
(1)	(2)	(3)
INDONESIA		
1973	58	0
1974	72	0
1975	49	0
1976	125	0
1977	88	0
1978	123	0
1979	215	0
1980	419	0
1981	479	0
1982	250	0
1983	134	0

TABLE 4 (CONTINUED)

(1)	(2)	(3)
MALAYSIA		
1973	78	0
1974	72	0
1975	115	0
1976	62	0
1977	88	0
1978	110	0
1979	215	0
1980	186	34
1981	85	0
1982	100	10
1983	220	0
SINGAPORE		
1973	98	0
1974	36	0
1975	99	16
1976	46	31
1977	73	14
1978	41	13
1979	126	25
1980	46	0
1981	95	42
1982	50	10
1983	163	19

Source: GPO, US Arms Control & Disarmament Agency (USACDA World Military Expenditures And Arms Transfers 1985)

V. ASSESSMENTS

A. LITTORAL STATES

The armed forces of the littoral states have changed significantly over the years. The most recent orders-of-battle reflect the determination of the governments to defend their regional autonomy. The naval forces of all three are adequate to protect the fisheries and control smuggling. While their navies are not on a par with a major power, general naval capability is not required for passage denial. The sea-based missile is a great equalizer in the narrow channel of the Straits of Malacca and Singapore. [Leifer, 1978, pp. 153-154]

In 1984, the Indonesian defense policy was designed essentially to deter invasion. Under the current five year plan, the focus is on improving military capability and the indigenous arms industries. In just fifteen years, Indonesia has developed the capability to monitor and stop maritime movement through the Straits. On the other hand, the world economic slump has had a negative impact on the Indonesian economy and future force upgrades will probably be delayed.

Indonesia intends to use the Lurssen patrol craft for both attack and defense. The boats are capable of interdiction and carry Exocet and torpedoes. The Navy also uses

ASROC and Styx XX-N-2 missiles. The latter remain from the Soviets and their condition is not known, although they are believed unusable. The United Kingdom has agreed to sell more Rapier (SAM) missiles and to transfer the technology to permit manufacture of the system [ADJ, 1 April 1986]. Another British company has agreed to coproduce an early warning radar [IDR, 1 September 1986].

According to Jane's Defense Weekly, Indonesia has shown a strong interest in anti-submarine warfare [1 February 1986]. They also are improving their own submarine capability. Recently, there were reports that Indonesia might build ten more Type 209 submarines in Indonesia [PDR, 1 October 1986].

Malaysia initiated its 4th National Plan in 1981 intending to spend $4.6 billion modernizing the armed forces over a five year period. Plans included the construction of two new air bases in North Malaysia, a new naval base on the Straits, infantry camps, training bases, and A-4 acquisitions. The recession caused the postponement of much of the modernization, but the A-4s are in the inventory. The Naval Base at Lumut has also been completed.

The Royal Malasian Navy is looking outward. The declaration of the two-hundred mile Exclusive Economic Zone (EEZ) in 1980 created a new focus for the Navy. The Navy could not protect the 160,000 square miles that Malaysia claimed. Consequently, to become an instrument of policy,

it had to upgrade its equipment. The near term objective is to control the EEZ, and force procurement to reflect that need.

To that end, the Lerici class minehunters joined the fleet on 26 March 1986, representing a definite upgrade in minewarfare capability. Although there are no definite funds allocated, The Netherlands, France, Great Britain and West Germany have offered to sell submarines to Malaysia. According to the Deputy Minister of Defense, Abang Abu Baker Mustafa, Malaysia will acquire its first submarine by 1990 or 1995. [JDW, 26 April 1986].

The RMAF is taking over air defense responsibilities as the Australians withdraw, and is considering what other aircraft are needed. The Australians, under license to McDonnell Douglas, are promoting the TF/A-18. [JDW, 1 February 1986] However, according to DFW [23 February 1986] it is not likely that funding will be available to replace the F-5 for several years. There is a requirement to upgrade the Counterinsurgency (COINS) forces with 40 new helicopters. If they can not buy what they need from the West, they will negotiate with Moscow for the Mi26. Western helicopter manufacturers considered for meeting the RMN's needs were Aerospatiale, Sikorsky, and Westland. The Westland Wasps phased out by the British Navy will be used. [ASJ, 1 August 1986]

Even though Malaysia supposedly deviated from the regional policy of buying like aircraft when they purchased the A-4, Singapore and Indonesia's "condemnation" of the purchase was rather mild and Singapore geared up very quickly for A-4 refurbishment and upgrading. The A-4s, in conjunction with the F-16s, provide a balanced air picture. Malaysia could afford more A-4s than F-16s, and there is an advantage to having greater numbers of aircraft if one considers the short expected life of a combat aircraft.

Singapore's defense posture is definitely pro-Western. The island nation is vulnerable to conquest because of its geography. The armed forces are keyed to coastal defense, but have the capability to anticipate attack over the horizon and put up an initial defense. The forces are geared to protecting Singapore's economic interests, which includes free access to its ports. The Lourssen fast attack craft are equipped with SSMs and could be used against ships unwelcome in Singapore's waters.

The Air Force is a critical factor in any scenario involving the Straits. The Hawkeye increases Singapore's warning time and the information could be shared with the other littorals. To deter the surface threat, Singapore will be mounting the Harpoon anti-ship missile on its A-4s [JDW, 26 July 1986]. The contract to purchase the F-16 has been the subject of many rumors. The most recent was in Jane's Defense Weekly [18 November 1986] which implied that

the contract still might be cancelled. Australia would prefer that Singapore purchase the TF/A-18 for the same reasons it is encouraging Malaysia to purchase the aircraft.

Singapore will be improving its surface capability, too. The Navy is considering what type weapon system to arm the six Lurssen corvettes on order. A French company is promoting the low-altitude ground-to-air weapon system that it manufactures. [IDR, 1 September 1986] Additionally, Singapore just purchased 76/62 OTO Super Rapid naval guns which are a multi-purpose anti-ship, anti-aircraft and anti-missile system [JDW, 21 June 1986].

The Malaysian Hughes system and the Singaporean AWACS completely cover the Straits airspace. Combined with the air defense system all three are developing, any hostile force could reasonably expect to be opposed.

While the area is not pro-Soviet (in fact, relations with the Soviets have been strained) [IDI, p. 9], the area can not be considered pro-US in time of conflict. Indonesia is heavily committed to remaining non-aligned, and Malaysia and Singapore are not likely to shift out of their regional agreements. All three countries are aware of the increased Soviet naval activity in the area. Soviet ships routinely use Cam Rahn Bay, and Soviet submarines are sailing in Southeast Asian waters. Indonesia has been forced to step up its ASW program. [IDI, p. 3]

Even though Malaysia delayed the building of its new air bases, one could reasonably expect that they would have access, if not control, of the Butterworth facility during a conflict. Indonesia and Singapore have basing available to ensure air coverage of the southeastern end of the Straits. The new naval base, Lumut, on the northern side of the Straits, fills the final gap for sea control at the western end of the Straits, considering Indonesia's Belawan base. Singapore can control its choke point and is upgrading its mine warfare capability. Indonesia has sufficient naval bases at the Pacific access to cause losses to any hostile forces. Together, the three littoral states are a formidable opponent.

B. UNITED STATES

The United States' strategic interest in Southeast Asian waters centers on freedom of the seas and the maintenance of open sealanes between the Pacific and Indian Oceans. The US national interest is best served by unrestricted seas that promote free trade and improve the US strategic posture. [Simon, 1982, p. 136]

The ability to freely transit the straits in the region improves the efficiency of the Seventh Fleet. The closure of straits, particularly of the Straits of Malacca and Singapore, adds time to the transit between the oceans, and could be a critical factor in a situation that required moving the fleet quickly from one ocean to the other.

[Alagappa, 1986, p. 11] The littoral states have not restricted passage of US military ships in the past, and have been quite tolerant of task forces moving through the Straits. Planners, however, should not assume that US forces will be able to use the straits or that others will be denied their use.

The US is committed to sea lanes in Southeast Asia remaining open for maritime traffic, especially for its East Asian allies whose economies are dependent on petroleum products. Japan, alone, receives 80% of its oil imports through the Straits of Malacca and Singapore. [Rusi and Brassey's, 1986, p. 284]

UNCLOS III, according to Ken Booth, will affect future naval strategy, but not the exercise of naval power, although it might cause it to veer marginally [Booth, 1985, p. 7]. Since the US did not ratify the Convention itself, but acknowledges much of it, the definition of what is international is controversial. For example, air traffic between US bases in the Philippines and Diego Garcia must fly over Malaysian or Indonesian territory. The littorals can serve as a barrier. UNCLOS III defined the air space over an international strait as international airspace, but Malaysia and Indonesia do not acknowledge the Straits to be international waters.

The US posture is beneficial when the littorals allow the US access to airfields and bases. Currently Singapore

allows P-3Cs to operate out of its air bases and US ships to dock. The US would benefit also if the littorals could defend their own region against the Soviets. That would be one less area for the Seventh Fleet to protect during a conflict.

A US presence in the area is advantageous for the littorals. Only the US can counter the Soviet presence and possible threats from other Asian navies. The PRC is building its navy for power projection. Vietnam claims islands that are also claimed by the littorals. India is expanding its naval facilities on the Andamans and has already deployed into the area.

Sealane security is best viewed from the perspective of regional security. ASEAN is one of the US's largest trading partners, even ahead of Europe. The littorals, as part of ASEAN, have encouraged a US military presence in the region based on a shared perception of the threat and on mutual interests. The US balances the Soviet presence. [Alagappa, 1986, p. 1] The US supports the littoral states in their call to have vietnamese forces withdrawn from Cambodia. [Zagoria, 1986, p. 8] The US recognizes that the "American national interest lies in furthering the harmony and development of the Pacific-Asian region." [Scalapino, 1986, p. 19]

The US military presence in this region is mostly maritime. The combined exercises initiated at the start of

the Reagan administration emphasized naval amphibious and air exercises, command, control and communications and logistics. Malaysia engages in regular exercises with the US fleet. [Alagappa, 1986, p. 7]

The US interests in the Straits of Malacca and Singapore were well summarized by Secretary of the Navy, John Lehman, who said,

> It has always been the Navy's mission to defend our freedom of navigation, to hold open our vital sea lanes and to maintain our transit rights through the ocean's straits and narrows. [Moore, 1982, p. 121]

C. USSR

The USSR has been interested in the Southeast Asian waterways and the Straits of Malacca and Singapore much longer than the US. The Soviets supported the Communist Party in Indonesia not too long after their own revolution. They have actively courted the littoral states since the 1960s. They had some success in Indonesia, which accepted military aid, but that success was short lived. The change in leadership in 1966 ended their public role in any of the littoral nations for several years.

The Soviets have made new commitments to reverse the quarter-century decline of their influence in the region [Nations, 14 August 1986]. According to Donald Zagoria, their interest in the region is based on a desire to limit the PRC's influence, to weaken US power, to prevent ASEAN

from becoming pro-West, and to shift the power balance to favor the USSR. [Zagoria, 1982, p. 154]

The Soviet Union considers itself a Pacific power and "therefore has full right to protect its national interests in the Pacific basin, including the security of the Soviet Far East and freedom of navigation in international water." [Chufrin, 1986, p. 13] Accordingly, the Soviet Pacific Fleet is the largest of the four Soviet fleets [Soviet Military Power, 1986, pp. 8-9] Moscow considers Singapore an important regional factor, since the early 1970s. Singapore controls access to the choke point between the Pacific and the Indian Oceans. Soviet naval forces in the Indian Ocean are drawn from the Pacific fleet. Consequently, once the Soviets became a naval power they were interested in ensuring free passage through the Straits [Weu, 1972, p. 24].

According to Dr. Frank Cibulka, the Malaysian Minister of Justice reported that Soviet submarines have been sighted passing through the Straits and have been detected in the South China Sea off the coast of peninsular Malaysia, and in the waters off Sabah. That is undoubtedly part of the continued Soviet effort to prevent the United States from establishing a monopoly in the region. Soviet policy:

> stresses the strategic unity of both the Northeast and Southeast Asian regions. . . . Freedom of strategic access through Southeast Asia . . . has become a salient Soviet interest and one that will assume greater significance as the Soviet Union expands its carrier-based fleet in the 1990s. [Buszynsi, 1986, p. 596]

The littorals are embarrassed by Soviet overtures, but do not feel that the Soviets are really a threat to them. The problem is between the superpowers, and they expect to be bystanders. Alagappa states that "it is believed [by the littorals] that the Soviets have neither the capability nor the interest to threaten the security of the Asean states." [Alagappa, 1986, p. 18] The Soviet image did not benefit from the military assistance they supplied Indonesia. They were considered a threat only when they supported the Vietnamese. With the image and track record, it is difficult for the Soviets to attain the lasting regional influence they want. Still, the Chinese are considered a bigger threat by Malaysia and Indonesia.

D. OTHER FACTORS

1. Mining of the Straits

The Straits are easily mined. Malaysian coastal waters are sandy-bottomed and have an average depth of less than fifty meters. The Royal Malaysian Navy realizes the potential for minewarfare in the Straits and has acquired four Lerici class MCM ships. Singapore does not have that capability, but the waters around Singapore are no less mineable. Singapore needs new minehunters. [Moore, 1985, pp. 37-38] Areas with sandy bottoms and strong currents are perfect for mines. The sand shifts and covers the mines until they are not visible on sonar, but does nothing to lessen the deadliness of the mines. Nonetheless, "the well

trained crew of a single ship can clear a channel quicker than a whole squadron sweeping," according to Jane's. [Moore, 1983, p. 101] Malaysia is developing that capability.

There are several scenarios in which the Straits might be mined. One would be for the littorals to do it themselves, to prevent anyone from using the channel freely. In that case, the Straits would be effectively closed. The littorals have developed enough naval power to prevent the Straits from being forced without conquering the littorals themselves. The littorals have anti-ship missiles mounted on aircraft and on ships. Additionally, shore gunners would be able to foil units attempting to clear narrow parts of channels.

Another scenario would be for an outside power to mine the Straits to keep others from using the Straits. In that case, the Malaysians might be able to clear the Straits until the next time the outside power laid more mines. A variation would be for one navy to make the transit and then block the Straits so that anyone else coming through would be slowed down.

A more realistic scenario would be where one of the superpowers attempted to prevent another from using the Straits in time to arrive on station in the Indian Ocean littoral during a crisis, as in the Indo-Pakistani war. In that particular case, a short delay in arriving should make

the difference between being able to bring a show of power to bear on a third party or not.

2. Policy Changes by Littoral Nations

The security interests of the littoral nations are linked to the domestic and the international environments [Alagappa, 1986, p. 16]. Domestic factors include ethnic problems, religious issues, the economy and the political situation. The international factors are based on threat perception. Malaysia and Indonesia perceive the threat coming from the PRC. Singapore perceives the Soviets and the Vietnamese as the primary threat. [Alagappa, 1986, p. 17] Indonesia and Malaysia are aware of the growing Soviet power in the region, but do not believe that the Soviets would threaten their security, although they do believe it is necessary for the US to maintain a strategic balance in the region.

If the littorals had to pick a side in a conflict, whether an actual war or a crisis, they would probably favor the US, if only for economic reasons and the domestic anti-communist sentiment [Alagappa, 1986, p. 19]. What could cause a change in that position might be a strong appeal from the non-aligned countries to remain uninvolved in a crisis. Indonesia is still acknowledged a leader in the Non-aligned movement, and would be more likely swayed by such arguments in a situation that did not affect Indonesian security. it is unlikely, though, even in that situation

that Indonesia would actually attempt to block the Straits, although it might deny passage through Indonesia waters. In the near term, the policies of the littorals are not likely to change.

3. Miscellaneous

The threat to the littoral states is more apt to be internal unrest than overt hostilities with another country. Singapore is least likely to be affected by internal unrest, but there is a slight chance that the economic situation could create problems for the government. The government may change its character if Prime Minister Lee steps down. The low birth rate among ethnic Chinese is more of a concern to the government than any actual ethnic problem.

That is not the case in Malaysia, where there is tension between Malays and Chinese. As the economy has slowed, and the practice of favoring Malays become entrenched, young Chinese question policies that prevent them from finding jobs and advancing. The Islamic revival, too, leads to favoritism for the Moslems. That creates contention in both Malaysia and Indonesia.

Of the three littorals, Indonesia is still dealing with insurgents. Malaysia has quelled its communist rebellion, but exercises caution when dealing with the Chinese community, since most of the rebels were ethnic Chinese. The fear of a fifth column still exists. Indonesia is probably the most likely to have internal problems because

the factors previously noted, combined with the style of government, are not conducive to a stable environment.

VI. CONCLUSIONS

In 1978, Buzan observed that the Straits of Malacca and Singapore were unlikely to become serious objects of conflict, except in a general war. The cost for the littorals of closing the Straits would greatly outweigh the benefits of doing so. [Buzan, 1978, p. 46] That situation has not changed. The Straits of Malacca and Singapore are not important enough to warrant consideration if the littorals decided to refuse access during hostilities in the region. While US strategists should consider them when planning a military campaign, they are not worth the effort to guarantee their availability in a crisis situation.

The contingency plan for regional hostilities might assume that the Straits were open, but the primary plan should not. In either situation, the US should be prepared to prevent others from using the Straits. If the littorals will not or cannot do so, then the US should be prepared to mine them. Mining would not guarantee that a persistent enemy could not use the Straits, but it would raise the price for doing so. The countermine capability of the littorals is based on the current and proposed Order of Battle, so the mining would have to be repeated regularly. Aircraft coming in to lay mines would have to avoid the air defense network.

Attempting to use the Straits without cooperation from the littorals would be an exercise in futility. The capabilities developed since 1976 are more than adequate to stop ships from passing through the Straits. Even where the naval response is slow, there are enough places where the channel is narrow enough for shore guns to do damage.

The above has assumed regional hostility, but the US is more likely to be involved in a situation where it is necessary to move military units through the Straits to stage a presence in a conflict on the Indian Ocean littoral. The US would want reasonable assurance that none of the littoral states would use their forces, in particular the missile-armed fast attack craft, to impede transit. [Moore, 1986, p. 141] Additionally, the US would be in a better strategic position if the littorals would hinder Soviet passage. The Straits of Malacca and Singapore are elements in any military situation because they decrease the response time of a fleet moving from one ocean to another.

Aside from the military value of the Straits as a choke point, the region is important legally. The US must not deviate from its position that the Straits are subject to international navigation and that US passage is not to be hindered. Politically, the region is important because the littorals are relatively stable and are not likely to switch to communism. Their styles of government are not modeled after the US, but they are relatively stable, especially

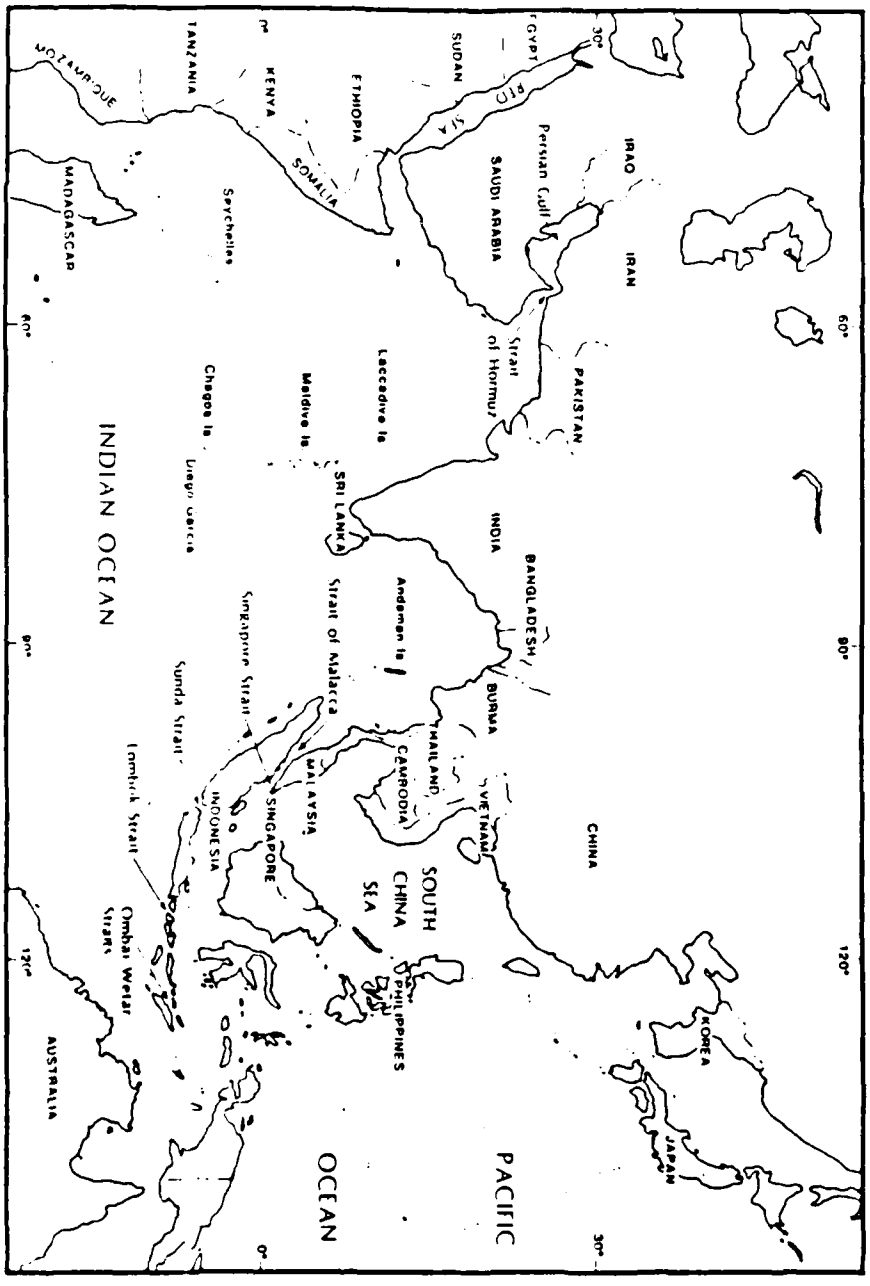
compared to other Third World states. The economic value of the littoral nations has placed them, as part of ASEAN, as one of the US's major trade partners.

Other straits in the region have definite strategic value. Submarines can be deployed in their deeper waters undetected and improve the strategic value of the nuclear triad. Here again, the US must stand firm on its right to transit international waters without interference and use channels customarily open for international navigation.

The littoral nations have the capability to control the initiative in the Straits of Malacca and Singapore. The current US policies in the region have not guaranteed the littorals' position during a conflict, but it appears that the US can rely on the littorals' cooperation or non-alignment during hostilities.

APPENDIX

MAP OF SOUTHEAST ASIA



Source: [Vertzberger, 1984

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