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THESIS

**THE SEA DRAGON NETWORK: IMPLICATIONS
OF THE INTERNATIONAL EXPANSION OF
CHINA'S MARITIME SHIPPING INDUSTRY**

by

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June 1998

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**THE SEA DRAGON NETWORK: IMPLICATIONS OF THE
INTERNATIONAL EXPANSION OF CHINA'S MARITIME SHIPPING
INDUSTRY**

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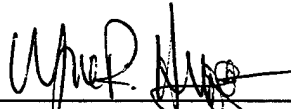
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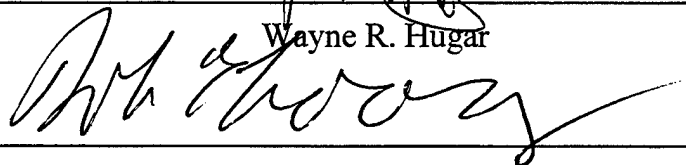
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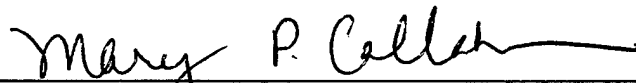
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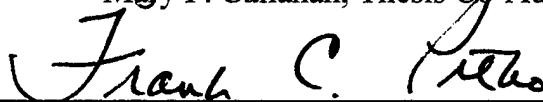
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ABSTRACT

This thesis examines strategic motivations and implications of the international expansion of China's maritime shipping industry (MSI). China's economic growth strategy depends upon maritime shipping to export foreign exchange earning commodities and import energy, industrial, and food resources. As a result, China's MSI is expanding faster than that of any other nation in the world. China's MSI expansion is creating regional shipping networks that increase levels of Sino-foreign trade (SFT) interdependence. The argument herein is that increases in SFT enhance Beijing's regional ability to advance China's economic, political and security interests.

The analysis suggests China's foreign policy and overseas investment in strategic resources increase levels of SFT and transportation requirements for China's MSI. China's MSI expansion impacts regional shipping services, schedules, and prices in China's favor. The analysis also suggests China's dependencies on regional MSI and SFT networks increases Beijing's sense of maritime economic vulnerability to perceived threats in international waters. China's maritime security policy and recent naval deployments are examined to assess the potential for China's Navy to protect China's MSI in regions where levels of SFT are high. China's desire to protect its MSI offers opportunities for Sino-U.S. Naval and maritime security cooperation in deterring threats to mutually shared maritime shipping interests.

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LIST OF ACRONYMS

APEC	Asia-Pacific Economic Council
ASEAN	Association of South East Asian Nations
CMC	Central Military Commission
CNPC	China National Petroleum Corporation
COSCO	China Ocean Shipping Company
CSC	China Shipping (Group) Company
DWT	Deadweight Ton
EEZ	Economic Exclusion Zone
FBIS	Foreign Broadcast Information Service
GDP	Gross Domestic Product
GNP	Gross National Product
HPH	Hutchison Port Holdings
IMO	International Maritime Organization
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
MBPD	Million Barrels Per Day
MDWT	Million Deadweight Tons
MMF	Merchant Marine Fleet
MMT	Million Metric Tons
MOFTEC	Ministry of Foreign Trade and Economic Cooperation
MSI	Maritime Shipping Industry
MT	Metric Ton
NM	Nautical Mile
OECD	Organization for Economic Co-operation and Development
ONI	Office of Naval Intelligence
OOCL	Orient Overseas Container Line
PLAN	People's Liberation Army-Navy
PRC	Peoples's Republic of China
PSA	Port of Singapore Authority
SCS	South China Sea
SFT	Sino-Foreign Trade
SLOC	Sea Line of Communication
SSE	Shanghai Shipping Exchange
TEU	Twenty-foot Equivalent Unit
UN	United Nations
UNCLOS III	Third United Nations Law of the Sea Conference
USN	United States Navy
VLCC	Very Large Crude Carrier
WTO	World Trade Organization

EXECUTIVE SUMMARY

This thesis identifies strategic economic and security implications posed by the international expansion of China's maritime shipping industry (MSI). China's robust economic growth strategy depends upon maritime shipping to export foreign exchange earning goods and import strategic energy, industrial, and food resources. This strategy's success depends upon expanding the international operations of China's MSI and Sino-foreign trade (SFT). This thesis posits that increases in bilateral MSI cooperation and SFT enhance China's opportunities for advancing China's economic and security interests.

China's foreign policy and overseas investment in foreign resources increase the transportation requirements for China's MSI and levels of SFT. Elements of China's MSI examined are China's merchant marine fleet (MMF), port infrastructure, international shipping operations, and foreign port development and access. Elements of SFT examined are China's import and export trade dependencies in Asia, the Middle East, Africa, and South America.

The analysis suggests that there are three primary motivations for China's MSI expansion. One motivation is the result of deficiencies in strategic resources caused by China's rapid economic expansion and relative imbalances between increasing consumption and decreasing production. Therefore, China's MSI must expand to import larger volumes of strategic resources for satisfying domestic industrial and consumer demand.

Another motivation is pure profit. China's state-owned MSI earns foreign exchange by transporting containerized and bulk cargo and building merchant ships for other nations. Still another motivation is China's export-led economic growth strategy which depends on

increasing international market share. As a result, China's MSI is expanding its handling capacity and international trade linkages for transporting larger volumes of China's domestically-produced export goods.

Economic implications are identified from the expansion of China's MMF's regional trades, cargo handling capacity, and foreign port access. China's MSI aggressively underbids rival competitors to gain market share of containerized trades. The analysis shows China's MSI expansion increases the volume and value of trades linked to China in the Western Pacific, Indian Ocean, Arabian Gulf, Red Sea, and Mediterranean Sea regions.

Security implications are identified from China's growing economic dependency on regional MSI and SFT networks. Between 40-50 percent of China's economy depends on SFT for sustained growth. Between 85-95 percent of SFT is transported by maritime shipping. Beijing perceives these networks are vulnerable to potential threats from foreign navies, piracy, terrorism and regional conflicts near littoral areas. China's economy would be disrupted if access to secure and reliable flows of resources are denied.

The analysis suggests that Beijing's perceptions of these vulnerabilities increase the likelihood that Beijing will commit the People's Liberation Army-Navy (PLAN) to maintaining at least an occasional presence for protecting maritime shipping beyond China's territorial waters. However, while the U.S. Navy (USN) maintains a robust naval presence to ensure international maritime economic stability, the substandard capabilities of PLAN combatants have precluded it from protecting China's MMF beyond territorial waters. This thesis posits that China will use its economic dependence on maritime shipping as a primary rationale for the PLAN maintaining an occasional presence in international waters.

An occasional presence would not necessarily threaten foreign commercial or naval shipping. The PLAN's success in deploying long distances would be enhanced through access to foreign ports for repair, refueling, and replenishment. The PLAN is most likely to have access to foreign ports where levels of SFT and bilateral MSI cooperation are high. During a 14-month period, between March 1997-May 1998, a total of nine PLAN ships visited ports in nine foreign nations on four continents and sailed over 40,000 nautical miles (NM) within the Asia-Pacific region. Cumulatively, this activity represents the farthest distance sailed and time spent in international waters ever undertaken by the PLAN.

The strengths of China's MSI, plus its perceived vulnerability, could cause the PLAN to increase its international presence and be depicted as dangerous to the maritime security of the United States. However, China's desire to protect its MSI represents opportunities for USN-PLAN cooperation. By using protection of maritime shipping, as a basis for joint and combined exercises, the political and security stigmas of exercises based on power projection, sea denial, or territorial seizure are removed. In 1998, the United States and China signed a Military Maritime Consultative Agreement which provides a forum and a basis for the U.S. Pacific Command (USCINCPAC) to initiate bilateral naval cooperation.

In conclusion, China's MSI provides Beijing with a means to exert its influence over regional maritime transportation networks linking China with foreign suppliers of energy, industrial, and food resources. How China uses its economic, political, and security influence within the international maritime economy is relevant for U.S. foreign policy, national security strategy, and the USN.

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I. INTRODUCTION

As economics expand globally, there are corresponding increases in reliance on shipping lanes and vulnerability from sea-lane choke points. Expanding commercial ties and market competition will increasingly affect our relationships within and without the region. Increasing regional energy demands, particularly in India, China, and Japan, will stress global energy supplies.

Admiral Prueher, *Testimony Before the House National Security Committee*, 1997

As a multipolar world structure gradually comes into being, there will be contradictions of economic interests among multiple centers . . . Geoeconomics will dominate geopolitics. War is the contradiction of politics, and more directly the contradiction of economics.

Lieutenant General Li Jijun, *Military Theory and Conflict*, 1994

A. BACKGROUND

China's maritime shipping industry (MSI) is expanding more than that of any other nation. China's economic development strategy depends upon foreign trade for growth and stability. This strategy's success, measured by increases in exports and imports between China and foreign nations, results in additional transportation requirements for China's MSI.

China's MSI expansion is creating regional shipping networks that increase levels of Sino-foreign trade (SFT). China's dependence upon these networks increases its sense of vulnerability to potential threats in international waters. As a result, China is motivated to deploy China's Navy to protect its maritime shipping interests. This behavior could be depicted as dangerous to U.S. interests. Instead, it represents opportunities for Sino-U.S. naval cooperation in protecting mutual maritime shipping interests in international waters.

B. PURPOSE

The purpose of this thesis is to identify strategic economic and security implications posed by the international expansion of China's MSI operations in developing regions. Economic implications are derived from an analysis of China's emphasis on expanding the regional influence of its state-owned MSI as the foundation for China's economic development strategy. Security implications are identified through analysis of Beijing's perceptions of China's strategic maritime economic vulnerabilities attributable to dependencies on regional MSI and SFT networks.

This analysis of China's MSI expansion provides insight into Beijing's behavior in international economic, political, and security affairs. This is illustrated in *China as a Maritime Power*, by David G. Muller, who stated: "To understand Chinese strategy, economics, and foreign policy in the years ahead, it will be necessary to understand the new maritime elements of China's national interests and national power."¹ Edward N. Luttwak's explanation of the international economy and state behavior shows the relevance of maritime economics and China's MSI expansion for U.S. national security and foreign policy in his article "The Coming Global War for Economic Power:"

Geo-economics is spreading and becoming the dominant phenomenon in the central arena of world affairs. States will tend to act geo-economically . . . to outdo each other on the world scene. The corresponding geo-economic goal is . . . conquest or protection of desirable roles in the world economy. The winners will have those highly rewarding and controlling roles.²

This thesis identifies China's MSI expansion as a linchpin in Chinese economic

¹David G. Muller, *China As a Maritime Power*, (Boulder: Westview Press, 1983), 1.

²Edward N. Luttwak, "The Coming Global War for Economic Power," *The International Economy*, September-October 1993, 18-20.

development strategy. China's robust economy is characterized by relative gaps between levels of increasing consumption and decreasing production of strategic resources. Therefore, China's dependence upon imported energy, industrial, and food resources from foreign nations is growing. This thesis shows how and where these dependencies result in additional transportation requirements for China's MSI.

The economic implications of China's MSI expansion are increases in China's:

1. International influence over foreign trade and strategic resources.
2. Market share of maritime shipping services, routes, and rates.
3. Commercial access to foreign commercial ports.

The security implications are China's perceptions that:

1. China's MSI and SFT networks are vulnerable.
2. China's Navy may deploy in international waters to protect these networks.
3. China's MSI vulnerabilities could serve as a rationale for Chinese naval access to foreign ports and bilateral cooperation with foreign navies to protect mutual MSI interests.

C. METHODOLOGY

This thesis derives motivations for and implications of China's MSI expansion from an examination of regional relationships between China's MSI expansion and SFT with developing nations. The elements of China's MSI examined are China's merchant marine fleet (MMF), port infrastructure, international shipping operations, and foreign port development and access. The elements of SFT examined are China's import and export trade dependencies in Asia, the Middle East, Africa, and South America.

The major research questions this thesis seeks to answer are:

1. Why is China expanding its MSI?
2. How does China's foreign policy encourage China's MSI expansion?
3. How does China's MSI expansion affect SFT, the international MSI, and Chinese access to foreign strategic resources?
4. How does China's MSI expansion influence Beijing's perceptions of China's strategic maritime economic vulnerabilities, maritime security policy, and China's Navy?

This thesis posits that China's MSI expansion strategy increases levels of SFT in developing regions. More specifically, the dependent variable is the level of China's MSI presence in developing regions. Independent variables are:

1. Size and cargo handling capability of China's MMF.
2. Levels of Sino-foreign shipping alliances, port development, and access.
3. Level of China's foreign investment in foreign strategic resources.
4. Success of China's foreign policy in increasing levels of SFT.
5. China's economic dependence on importing resources and exporting goods.

In conclusion, the relevance of this thesis for U.S. national security is that it helps explain China's behavior as a growing world power and rival competitor in an increasingly interdependent world economy. This thesis asserts that China's MSI expansion increases China's economic competitiveness and influence in developing regions.

II. CHINA'S FOREIGN TRADE EXPANSION STRATEGY

Economics are playing an increasingly important role in the current international relations. Experience indicates that only through closer unity and cooperation . . . can developing countries effectively resist hegemonism and outside interference.

President Jiang Zemin, *Speech Before the Pakistani Senate, 1996*

Economic factors are more prominent in international relations. We should work to maintain steady growth in foreign trade . . . Energetically develop multilateral and bilateral trade and economic relations with other countries . . .

Premier Li Peng, *Report to China's National People's Congress, 1995*

The size and growth rate of a nation's economy are primary factors determining its level of dependence on maritime shipping and foreign trade. China's economy has grown by nearly 10 percent annually during the past 20 years.³ In 1997, China's gross domestic product (GDP) exceeded \$3 trillion and ranking it the world's second largest economy after the United States.⁴ In 1998, Beijing set an annual economic growth rate goal of seven percent which would double the level of China's GDP⁵ to \$11 trillion by 2010.⁶

China's domestic economic development strategy depends on its MSI and SFT for its sustainment and expansion. China's MSI expansion is necessary to increase levels of SFT to secure foreign resources and markets for China's exports. This strategy is creating an international SFT network where China is the "hub" and foreign nations are the "spokes."

³Compared to the world average economic growth rate of four percent. Zuli Hu and Mohsin S. Khan, *Why Is China Growing So Fast?* (Washington, D.C.: International Monetary Fund, April 1997), 1.

⁴According to World Bank purchasing power parity estimates for 1994, cited in Samuel S. Kim, "China as a Great Power," *Current History*, September 1997, 247.

⁵Wu Yi, "Prospects for China's foreign Economic and Trade Development," *Beijing Review*, 17 February - 3 March 1997, 21.

⁶Compared to similar GDP estimates of \$10.7 trillion for the United States, \$4.5 trillion for Japan, and \$1.3 trillion for India. Kim, 247.

This expansion is also creating regional SFT networks where China's MSI is gaining economic influence for China through bilateral shipping alliances and foreign port access.

A. MACROECONOMIC OVERVIEW OF SINO-FOREIGN TRADE

China's dependence on foreign trade has increased significantly as a percentage of its gross national product (GNP). Between 1978-1995, China's dependence on SFT increased from \$21 billion, or 10 percent of GNP, to \$280 billion, or 56 percent of GNP.⁷ During this same period, China's share of the world's international trade increased from 0.75 percent, ranking it 32d, to 2.76 percent, ranking it 11th.⁸

Between 1991-1995, the value of SFT exceeded \$1 trillion and grew by 20 percent.⁹ In 1996, the value of SFT was \$289.9 billion, a 3.2 percent increase over 1995.¹⁰ In 1997, the value of SFT trade was \$325 billion, a 12.1 percent increase over 1996 and ranking China the world's 10th largest trading nation with nearly four percent of the world's total trade.¹¹ For 1998, SFT is estimated to increase by 12.5 percent to reach \$365 billion¹² and by 2000 to \$400 billion.¹³

⁷Level of dependence is defined as the sum of imports and exports as a percentage of GNP. Ibid. By comparison, in 1995 the value of foreign trade for the United States totaled over \$1.3 trillion, or 27 percent of U.S. GNP. U.S. Department of Commerce statistics cited in *Worldwide Maritime Challenges 1997*, (Suitland: Office of Naval Intelligence, March 1997), 3.

⁸Yi, 15.

⁹"China's Shipping Prospects," *Cargonews China*, 1 May 1997. Online. Available HTTP:<http://web3.asia1.com.sg/timesnet/data/cnc/docs/cnc0287.html>, 15 June 1997.

¹⁰PRC Embassy (Washington)"Foreign Economic Relations and Trade," Online. Available HTTP:<http://www.china-embassy.org/cgi-bin/press.p1?lm-exp>. 17 April 1998. U.S. foreign trade in 1996 totaled \$1.4 trillion, cited in James D. Hessman and Marcia Smith, "Filling the Critical Need For Sealift," *Seapower*, September 1997, 18.

¹¹China's rate was five percent higher than the world average with exports increasing 20.9 percent. Li Ning, "China Enters Top Ten In World Trade," *Beijing Review*, 30 March-5 April 1998, 10.

¹²According to forecasts by the Economic Research Institute, China's State Planning Commission, cited in "Foreign Trade Forecasts for 1998," *Beijing Review*, 19-25 January 1998, 28.

¹³Yi, 21.

China's maritime trading partners include over 180 nations. In 1996, China expanded its SFT strategy from traditional markets in Asia, Europe, and North America to focus more on markets in Africa, the Middle East, and Latin America. In 1997, China's exports to Latin America, Africa, and Oceania increased by 47, 24, and 22 percent, respectively.¹⁴ In 1997, over 50 percent China's MMF capacity was devoted to handling foreign trade whose volume totaled 185 million tons (MT); this represented an increase of 8.4 percent over 1996.¹⁵

B. FOREIGN POLICY AND ECONOMIC DIPLOMACY STRATEGY

Beijing's foreign policy emphasizes bilateral economic alliances rather than political or ideological alliances. Beijing's strategy of "economic" diplomacy has expanded levels of SFT with developing nations in Asia, the Middle East, Africa, and Latin America. This strategy is directed by China's Ministry of Foreign Trade and Economic Cooperation (MOFTEC). Increases in SFT are facilitated by the "Chinese People's Association for Friendship With Foreign Countries" and the "Chinese International Trade Development Council," whose representatives visit several foreign nations each year.

SFT probably will increase following China's admission in the World Trade Organization (WTO). Membership in the WTO would provide China with additional opportunities to expand SFT linkages for importing and exporting desired commodities. In 1996, China's chances of admission were increased when Beijing reduced domestic tariffs on over 4,000 categories of import items from a cumulative average of 35 percent to 23

¹⁴Ning, 11.

¹⁵*Xinhua* (Beijing), "Volume of Goods Transported for Foreign Trade," Foreign Broadcast Information Service [Hereafter FBIS], 19 February 1998.

percent.¹⁶ Levels of SFT and bilateral MSI cooperation have also increased due to China's appointment to the executive committee of the International Maritime Organization (IMO).¹⁷

Beijing's foreign policy and diplomacy emphasize bilateral economic cooperation for mutual benefit based on "non-interference" in the internal affairs of foreign nations. Beijing's foreign policy provides China with an advantage over nations whose foreign policies require internal political reforms as conditions for bilateral economic cooperation. Chinese Premier Li Peng summarized key aspects of Beijing's foreign policy that help to increase levels of SFT:

China resolutely opposes hegemonism, power politics . . . or interference in the internal affairs of another nation under the pretext of ethnic, religious or human rights issues. Relations with other states are never based on social systems or ideologies. China has vigorously promoted regional economic cooperation [and] vigorously explored ways to engage in mutually complementary cooperation with other developing nations in the economic, trade, scientific and technological sectors . . . and the establishment of a new fair and equitable international political and economic order . . .¹⁸

Specific economic aspects of China's foreign policy are summarized by the following principles: (1) Developing countries have the right to choose their own economic systems; (2) Developing countries have the right to choose permanent sovereignty over their natural resources; (3) International economic affairs should be managed by all nations, not monopolized by one or two superpowers; (4) International trade should be managed and

¹⁶PRC Embassy (Washington), 17 April 1998. As of April 1998, the WTO comprised 131 nations. Members in the WTO generally have lower trade tariffs than non-members. China's admission to the WTO would not impact negatively China's state-subsidized MSI because restrictions on subsidies to shipping and shipbuilding are not fully covered by the WTO's provisions.

¹⁷"China's Shipping Prospects," *Cargonews China*, 1 May 1997. Online. Available HTTP:<http://web3.asia1.com.sg/timesnet/data/cnc/docs/cnc0287.html>, 15 June 1997.

¹⁸Premier Li Peng's *Speech Before the 96th Inter-Parliamentary Conference*, 19 September 1996. Reprinted in PRC Embassy (Washington) "Main Characteristics of China's Foreign Policy," Online. Available HTTP:<http://www.china-embassy.org/cgi-bin/press.p1?207>, 17 April 1998.

accommodated on the basis of each other's needs.¹⁹

Beijing's foreign policy strategy of "selective economic diplomacy" increases SFT by targeting developing nations that have potential for China to obtain strategic resources for importation. In 1995, China implemented a long-term foreign investment and direct aid strategy with developing nations to establish access to strategic resources. Many of these investments are actually subsidized loans to inefficient foreign enterprises.

In 1996, China granted favorable loans totaling \$16 billion and committed foreign investment totaling \$42.35 billion; an increase of 2.2 percent over 1995.²⁰ In 1997, China signed 38 subsidized loan agreements with 31 countries primarily in Africa, South America, and Asia. The link between Beijing's strategy of increasing SFT and direct foreign investment is best summarized by Minister Wu Yi, the current head of MOFTEC, who stated: "We must devote major efforts to developing exports and maintaining their stable growth . . . [and] promoting exports by combining them with foreign aid, economic and technological cooperation and investment."²¹

As SFT increases, foreign nations are more likely to support China in international politics. China has used SFT as leverage to gain international political support in the United Nations when it has been threatened by economic sanctions or condemned for alleged human rights abuses. China has used SFT as leverage for influencing nations, such as South Africa, to give formal recognition to China and to curb economic and political relations with

¹⁹"Jiang Proposes Guidelines for Developing Asian Ties," *Beijing Review*, 23-29 December 1996.

²⁰PRC Embassy (Washington) "Foreign Economic Relations and Trade," Online. Available HTTP:<http://www.china-embassy.org/cgi-bin/press.pl?Im-exp,1>. 17 April 1998.

²¹Ning, 12.

Taiwan.²²

In conclusion, China has maintained a focused foreign policy strategy of increasing bilateral political and economic relations with developing nations throughout the 1990's. Beijing's foreign diplomats and economic emissaries are vigorously engaging in bilateral trade negotiations and economic diplomacy to increase levels of SFT. Beijing perceives it has established long-term political and economic advantages with developing nations through increasing levels of SFT and foreign investment. China's economic and political influence increases commensurately as China's MSI expands its linkages in developing regions to increase SFT.

²²China and South Africa established formal diplomatic relations on 1 January 1998. An editorial in China's *People's Daily* commented on the establishment of diplomatic relations between the two countries: "Developing and consolidating friendly and cooperative relations with African countries is a significant part of China's foreign policy. It is a common need of the two countries in their political and economic cooperation.", cited in "China Forges Ties With South Africa," *Beijing Review*, 19-25 January 1998, 4.

III. CHINA'S MARITIME SHIPPING INDUSTRY EXPANSION STRATEGY

Transport should be part of China's diverse strategy for foreign trade. It should have a diverse strategy, especially in view of the financial turmoil in South East Asia.

Assistant Minister, MOFTEC, Liu Xiangdong,
Comment of China's Foreign Trade Strategy, 1998

China's MSI expansion strategy includes increasing the size of China's MMF, ports, cargo handling, shipbuilding and repair facilities. This infrastructure serves as a base from which to gain influence over regional maritime shipping and trading networks. China's MMF imports strategic resources to fuel China's rapid economic growth. It also profits from transporting trade, building and repairing ships, and managing port facilities for foreign nations. This expansion increases levels of SFT and China's influence over the international maritime transportation and trade of energy, industrial, and consumer goods.

A. SHIPPING

China's MSI is a state-owned conglomerate subject to centralized control and direction. However, recent trends of China's MSI expansion indicate Beijing has liberalized its control over the industry. This allows individual Chinese shipping companies more flexibility in gaining market share of handling international trades. Therefore, China's MSI expansion strategy results from both centralized decision making processes by the state and initiatives by individual Chinese shipping companies to gain international market share.

China's MMF ranks third in the world measured by numbers of ships and container

handling capacity; behind Japan and Greece.²³ In 1997, China's MMF consisted of approximately 2,000 ships comprising 35 million dead weight tons (MDWT).²⁴ China's largest shipping company, the China Ocean Shipping Company (COSCO), has over 600 ships sailing on 120 international shipping routes between 1,200 ports to 160 countries and regions.²⁵ China's second largest shipping company, the China Shipping (Group) Company (CSC) has over 400 ships comprising 8 MDWT.²⁶ Between 1987-1997, China's MMF's annual container handling capacity for all shipping companies increased by 27 percent compared to the world's average of between 6-8 percent.²⁷

COSCO is diversifying its operations to include horizontal and vertical linkages within international MSI networks. These linkages include international finance, air transport, real estate, warehousing, freight forwarding, shipping terminal management, insurance, and marine engineering. COSCO's future expansion plans include acquiring more oil carriers, larger container, cargo, and bulk-carrying ships, and advanced technology for building marine engines, navigation, communication, and ship equipment.²⁸

²³"Top 15 Container Operators," *Fairplay*, 24 April 1997, 19.

²⁴Includes ships of all types over 1,000 gross registered tonnage (GRT) and 270 Chinese merchant ships registered under foreign flags-of-convenience. *The CIA World Factbook*, (Washington D.C.: Central Intelligence Agency, 1997), 99.

²⁵"Full Steam Ahead For Shipping Industry," *Beijing Review*, 19-25 January 1998, 27. COSCO controls over 17 MDWT or 50 percent of China's MMF. In 1995, COSCO's breakdown by ship types was 35 percent for cargo ships, 20 percent for bulk carriers, 20 percent for container ships, and 25 percent for oil and chemical product tankers. Sharon Cunningham, "Brokers See Chang in Business Profile," *Lloyd's List*, 21 July 1997, 7.

²⁶The age of China's MMF is 18.7 years and is slightly older than the world average of 16.2 years. Diane Stormont, "COSCO Moves to Unclog Arteries," *Seatrade Review*, November 1997, 55.

²⁷*Xinhua* (Beijing), "Report on Container Shipping Industry," FBIS, 25 September 1997.

²⁸In 1997, COSCO was among the first Chinese commercial entities to operate an international communications and database network separate from China's standard communications service provider. This Electronic Data Information (EDI) communication network, links COSCO with over 1,100 foreign shipping entities to track international cargo for its ship's manifests. *Xinhua* (Shanghai), "COSCO Global Communications Network in Shanghai," 5 September 1997.

The return of Hong Kong to China adds approximately 20 percent to China's GDP.²⁹ With Hong Kong's shipping assets included under China's MSI, it now handles between 10 to 15 percent of the maritime transportation of world trade. China's MSI benefits from Hong Kong's robust shipping services which provide a deep-water port, lower taxes, finance, insurance, and ship registry advantages. The Hong Kong-based Orient Overseas Container Lines (OOCL) is one of the ten largest shipping companies in the world. China's MSI also gains trade market share from capitalizing on OOCL's international shipping alliances and port access relationships with foreign shipping companies and ports.

In 1997, China's MOFTEC initiated a large-scale consolidation of China's MSI to improve efficiency, cut costs, increase profitability, and gain international market share.³⁰ As a result, CSC was formed by absorbing several smaller Chinese shipping companies providing duplicating services. This led to CSC creating five separate fleets organized by function for oil, bulk cargo, containers, passengers, and "special use" services.³¹ COSCO underwent a similar reorganization by concentrating its management and container fleet in Shanghai; oil and gas tanker fleet in Dalian; general cargo and heavy lift fleet in Guangzhou; LNG carrier fleet in Shenzhen; and its dry bulk fleet in Tianjin.³²

²⁹Gene Linn, "Maritime China Gears for a Big Year," *Seatrade Review*, December 1996, 67.

³⁰This consolidation was under the guise of MOFTEC's "Measures Governing the Management of International Cargo Agency Business" to "steer the market [China's MSI] in a rational and orderly direction," cited in Stormont, 56.

³¹The CSG's assets reportedly total \$27.2 billion and include 400 merchant ships. Wang Zhide and Feng Yizhen, "China Sets Maritime Transportation Strategy," *Xinhua* (Beijing), FBIS, 10 February 1998.

³²Stormont, 57.

B. SHIPBUILDING AND REPAIR

China is the third largest shipbuilding nation in the world with five percent of the world market behind Japan and South Korea; having 50 percent and 33 percent of the world market respectively. Shipbuilding is China's sixth largest domestic industry that manufactures export products. Between 1992-1996, China's MSI constructed 18.66 MDWT of ships for domestic and foreign recipients; representing a 31 percent annual increase.³³

In 1996, 85 percent of the new merchant ships built by China's MSI were for export which earned \$1.19 billion in foreign exchange.³⁴ In 1997, China's MSI built \$3.15 billion worth of merchant ships comprising 2.29 MDWT, a 29.3 percent increase over 1996.³⁵ China also exported \$64 million worth of machinery, engines, and electronics for foreign merchant ships; an increase of 50 percent over 1996.³⁶ In 1997, the China National Shipbuilding Corporation alone exported ships worth \$1.6 billion, an increase of 17 percent over 1996 when it exported ships worth \$1.15 billion.³⁷ During 1997, China contracted for new shipbuilding orders worth \$3.1 billion and by 2000 expects export revenues from these new orders to reach \$1.8 billion.³⁸

Beijing has directed that China's MSI increase its share of the world's demand for new ships; which represents a \$50 billion annual market.³⁹ Chinese MSI analysts estimate

³³*Xinhua* (Beijing), "Growth in Shipbuilding Industry Since 1992," FBIS, 10 September 1997.

³⁴Diane Stormont, "Aiming For 10% of World Market," *Seatrade Review*, November 1997, 65.

³⁵*Ibid.*

³⁶*Xinhua*, (Beijing), "China's Shipbuilding Industry Witnesses Growth," FBIS, 26 February 1998.

³⁷*Ibid.*

³⁸"Chinese Builders Threatened," *Fairplay*, 29 January 1998, 14. China's shipbuilding is directed by the China State Shipbuilding Corporation (CSSC). In January 1997, CSSC reported it had 81 new ship export orders of 1.32 MT; or 25 percent of China's MSI new building output. *Xinhua*, 21 February 1998.

³⁹Anna Wilde Mathews, "Newport News Falters at Attempts to Build Commercial Cargo Ships," *The Wall Street Journal*, 17 March 1998, 2.

the world's market demand for new ships will reach between 35-45 MDWT by 2010, 50 percent higher than the previous 15-year average.⁴⁰ Although China's MSI currently has between 5-6 percent of the world shipbuilding market, that percentage has been targeted by Beijing to increase to 10 percent by 2000 and to 20 percent by 2010.⁴¹

China's annual merchant ship production capacity increased from 0.7 MDWT in 1982 to 2.5 MDWT in 1997. China's shipbuilding infrastructure consists of 27 shipyards, 66 manufacturing plants, and 37 research and design centers for construction of both civilian and military ships.⁴² Expansion of China's MSI infrastructure enhances China's ability to gain market share of ship exports. In 1997, China invested 10 billion Yuan to expand its shipbuilding industry's capacity by 1 MDWT for a total of 3.8 MDWT by 2000.⁴³ Chinese shipyards have recently constructed large 100,000 ton floating dry docks to build and repair foreign merchant ships comprising between 150,000-300,000 tons.

China has 1,375 shipbuilding and ship repair companies of which 78, or 6.3 percent are Sino-foreign joint ventures.⁴⁴ China is consolidating its MSI infrastructure to achieve greater economies of scale for production and purchasing industrial resources in bulk quantities. China's MSI has also improved its proficiency in building bulk carriers, oil tankers, dry cargo, container ships, chemical carriers, and natural gas carrier ships for export.

⁴⁰Li Rongxia, "Shipbuilding Industry Meets Challenges," *Beijing Review*, 13-19 October 1997, 23.

⁴¹*Xinhua*, 10 September 1997. By 1996, China had secured orders for new ships from Canada, Finland, France, Greece, Malaysia, Japan, South Korea, Switzerland, and Taiwan while gaining a seven percent market share of the world's new shipbuilding orders. "Asia Dominates the Market," *Cargonews Asia*, 5 November 1997. Online. Available HTTP:http://www.asia1.com.sg/cgi-bin/ship/sp_dnews, 17 April 1998. By comparison, the United States has a one percent share of the world new shipbuilding market. "Shipbuilding—Nowhere to Sail," *The Economist*, 16-22 May 1998.

⁴²*Xinhua*, 26 February 1998.

⁴³*Xinhua*, 10 September 1997.

⁴⁴"Shipbuilding Industry Restructured," *Beijing Review*, 8-14 September 1997, 30.

China receives advanced MSI-related technologies through joint ventures with Japan under the auspices of the "Japan-China Marine Transportation Council" and the "Japan-China Economic Association." These technologies include ship engineering, marine engine production, sophisticated steel cutting techniques, computer aided ship design and manufacturing.⁴⁵ In 1995, Japan built 50 percent of China's bulk cargo fleet and 75 percent of its container fleet;⁴⁶ while delivering six 5,250 TEU large capacity container ships to COSCO by 1997.⁴⁷ Japan's Kawasaki Heavy Industries (KHI), Hitachi Zosen, Mitsui, and Mitsubishi Corporations have formed several MSI-related joint ventures in China, while several hundred Chinese shipyard employees have been trained at KHI facilities in Japan.

The ship repair capability and low labor rates of China's MSI allow it to repair foreign shipping at lower rates compared to shipyards in Japan, South Korea, and Singapore. In 1997, the average monthly wage for a Chinese shipyard employee was \$250.00 compared to that of Japan at \$3,000 and South Korea at \$2,000.⁴⁸ China's five largest ship repair yards depend on foreign ships for 70-80 percent of their revenue.⁴⁹

C. PORT INFRASTRUCTURE

Between 1992-1997, China's MSI port infrastructure expanded by 300 new ship berths to quadruple its annual shipping container handling capacity.⁵⁰ With Shanghai, China's largest port in the middle, ports on the U.S. East Coast and Europe are 10,500

⁴⁵"Shipyards Develop Chinese Links," *Fairplay*, 29 January 1998, 22.

⁴⁶*China and World Shipping: An Analysis of the Impact of China on the World's Maritime Industries*, (London: Drewry Shipping Consultants, June 1995), 8.

⁴⁷*Cargonews Asia*, 15 April 1997.

⁴⁸Rongxia, 23.

⁴⁹The five ports are Beihai, Chengxi, Nantong, Shanghaiguan, and Wenchong. David Hughes, "China Yards a Force to be Reckoned With," *Shipping Times* (Singapore), 8 December 1997.

⁵⁰*Xinhua* (Beijing), "Xinhua Interviews Minister on Transport Progress," FBIS, 31 August 1997.

nautical miles (NM) equal-distant. Shanghai has shipping links with 500 foreign ports and 600 shipping companies in over 170 countries.⁵¹ China is also expanding its domestic container, mineral, and oil port terminal infrastructure to accommodate larger merchant ships. Between 1996-2000, China's port expansion calls for an additional 200 ship berths with a handling capacity of 300 MT⁵² for a total of 1,665 coastal and deep-water berths.⁵³

In late 1997, COSCO moved its headquarters from Beijing to Shanghai to be co-located with the newly established Shanghai Shipping Exchange (SSE). China's goal is to expand Shanghai into an international maritime economic, financial, trading, and shipping center for Asia. The creation of SSE as a shipping regulatory entity within Asia is already enacting policies that favor China's MSI. SSE sets tariff rates and other shipping regulations that must be adhered to by foreign companies engaged in MSI services and trades between China and Asia.⁵⁴

⁵¹*Proceedings of the International Maritime Conference and Exhibition Conference, 5-8 December 1995*, (Shanghai: Shanghai Society of Naval Architects and Marine Engineers, 1995), 1-5.

⁵²"China's Shipping and Port Construction Booming," *China Economic Window*, 20 June 1997, Online. Available HTTP:<http://www.chinaeco.com>, 10 August 1997.

⁵³*Ibid.*

⁵⁴Conrad Everhard, Chairman of Cho Yang America, commented on the future impact of SSE by stating: "China will dominate the rules and regulations of the liner trade," cited in Michael Fabey, "China: The Next Japan?," *trafficWORLD*, 10 November 1997, 22.

IV. CAUSES OF CHINA'S MARITIME SHIPPING DEPENDENCIES

Any disruption of the flow of oil from the Persian Gulf would clearly have a damaging effect on China's economy.

Secretary of Defense Cohen,
Speech Before the PLA Academy of Military Science, Beijing, 1998

China's robust economy is characterized by the simultaneous effects of increasing consumption and decreasing production of strategic energy, industrial, and food resources. China's domestic resource production is declining in relative terms compared to consumption. As a result, China's consumer and industrial economic sectors are dependent on foreign imports of oil, gas, minerals, metals, chemicals, and food commodities. Hence, China depends on its MMF and those of foreign nations to transport vital imports for economic growth and stability.

A. CONSUMPTION VERSUS PRODUCTION

Between 1990-1994, China's annual oil consumption increased by eight percent while its production increased by one percent.⁵⁵ China's domestic oil consumption increased between 0.6-0.7 percent for each percentage increase in GDP.⁵⁶ In 1996, China was the third largest oil consuming nation in the world and imported 160 million barrels of foreign oil worth \$3.4 billion; this represented a 37.5 percent increase over 1995.⁵⁷

In 1997, China's oil consumption was 3.8 million barrels per day (MBPD) while

⁵⁵Maundouh G. Salameh, "China, Oil and the Risk of Regional Conflict," *International Association for Energy Economics Newsletter*, Summer 1996. Online. Available [HTTP: http://www.iaee.org/newsltr/96sum11.html](http://www.iaee.org/newsltr/96sum11.html), 20 July 1997.

⁵⁶Drewry, 29.

⁵⁷William M. Spodak, "Power Struggle," *The China Business Review*, March-April 1998, 25.

production was 3.1 MBPD, representing a deficit filled by foreign imports of 0.7 MBPD.⁵⁸ By 2000, China's oil consumption is estimated to be between 4.4-5.6 MBPD with production at 3.0-3.5 MBPD; representing a deficit of between 1-2 MBPD.⁵⁹ By 2005, China's annual consumption of all types of energy resources is estimated to rise by over six percent; this represents an increase of nearly three times, or 160 percent from 1990 levels.⁶⁰

China's consumption of liquified natural gas (LNG) and liquified petroleum gas (LPG) is less than two percent of its total energy consumption. By 2000, China's annual consumption for LPG is estimated increase from its current level of six MT to nine MT.⁶¹ By 2005, China's LPG consumption is estimated to reach 17 MT; this indicates China will have to import eight MT or 50 percent of China's LPG demand.⁶² The main reason for this demand stems from China's efforts to rely less on coal as a primary energy source due its adverse environmental effects from air pollution. Chinese consumers also prefer LPG because it is a more convenient, efficient, and cleaner energy source for home use.

Levels of SFT also increase by China's desire to gain foreign market share for China's exports of military hardware, chemicals, textiles, and machinery. China's civilian and military industrial sectors require foreign imports of bauxite, chromium, copper, cobalt, iron ore, manganese, nickel, platinum, tin, titanium, and tungsten. China's chemical industry

⁵⁸Diarmid O'Sullivan, "China Builds Trade Links With the Gulf," *Middle East Economic Digest* [hereafter *MEED*], 31 October 1997, 2-3. Other Chinese sources indicate China's oil consumption in 1997 was 3.5 MBPD compared to 1996's level of 2.5 MBPD. Weijun Liu and Guochen Wan, "China to Import Crude Oil from UAE," *Asia Free Press*, 20 August 1997.

⁵⁹Chinese estimates. *Xinhua* (Beijing), "PRC Now Net Oil Importer," FBIS, 12 October 1997.

⁶⁰Masayasu Ishiguro and Takamasa Akiyama, *Energy Demand in Five Major Asian Developing Countries*, (Washington D.C.: The World Bank, April 1995), 29. The Center for Global Energy Studies (CGES) estimates China's oil demand will reach seven MBPD by 2005, cited in O'Sullivan, 3.

⁶¹"China's First LPG Terminal Commissioned," *Fairplay*, 30 April 1998, 49.

⁶²*Ibid.*

is expanding its production capabilities to export liquid bulk chemicals. In 1997, the value of China's chemical exports totaled \$15 billion; an increase of 21 percent over 1996.⁶³ As a result, increases in maritime shipping linked to China can be expected to occur in many of the following regions possessing strategic minerals illustrated in Figure 1.

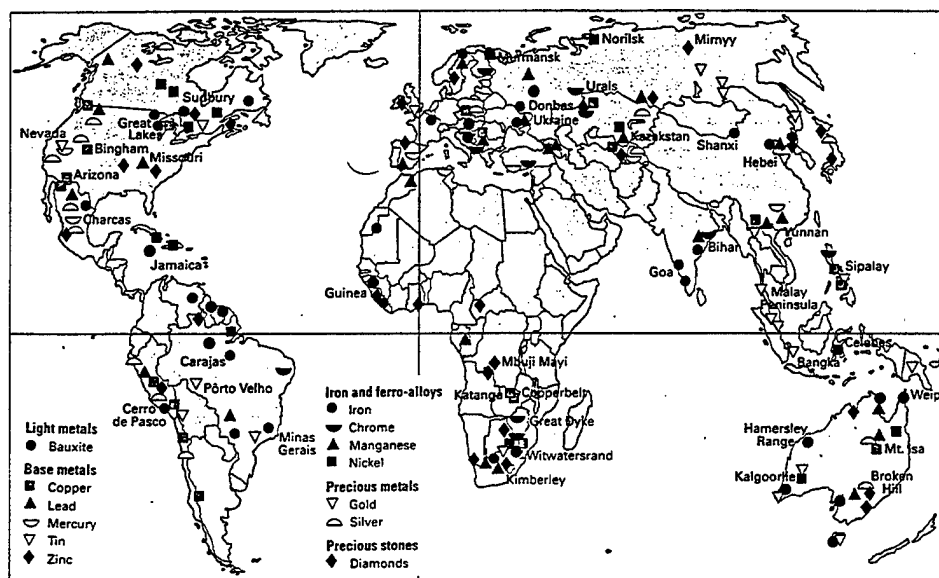


Figure 1. World's Mineral Distribution, 1993⁶⁴

China's military modernization and expansion requires greater levels of imports of foreign minerals and metals to produce sophisticated alloys required for aircraft, jet engines, rockets, armor plating, and ships. Foreign imports of resources are also used by China to manufacture military hardware for export. The support from China's military elite to increase military exports was summarized by one senior Chinese Army officer who stated:

The defense industry should try to develop products for export and expand

⁶³"Chemical Sector to Boost Exports," *China Daily* (Hong Kong), FBIS, 22-28 February 1998, 8. In 1998, China's chemical export goal is to increase the value of exports to \$16 billion; this represents an increase of \$1 billion over 1997. As China's chemical industry matures, future chemical exports will include higher value-added products such as complex polymers and specialty chemicals. Ibid.

⁶⁴*Philip's World Atlas*, (London: George Philip Ltd and Reed International Books, 1997), 27.

exports. This will then open a source of income and accumulate funds to be used for imports. It will facilitate links with the international market . . . we should constantly strengthen our competitiveness in the international market and open new venues for our foreign trade.⁶⁵

China's reliance on foreign oil also results from decreasing domestic oil reserves and oil industry productivity. Two-thirds of China's oil reserves are located in its interior where production has declined. In 1997, China produced 140 MT of oil from onshore oilfields and 16.2 MT from offshore oilfields.⁶⁶ Potential offshore oil reserves in the South China Sea (SCS) remain unproven and cost-prohibitive for China to extract due to the expense of equipment and technology required for drilling in deep water. China and foreign nations have not made significant investments in oil extraction in the SCS due to the uncertainty of finding oil and security concerns over competing claims in the region by other nations.

B. ENERGY IMPORT DEPENDENCIES

Between 1994-1996, China's foreign oil imports increased by over 100 percent from 3 MT to 22.6 MT.⁶⁷ In 1996, China produced 157 MT of oil, and spent \$3.4 billion on 22 MT of foreign oil imports, or 13 percent of total oil consumption.⁶⁸ During the first nine months of 1997, China imported 24 MT of oil; this represents an increase of 54 percent over the same period in 1996.⁶⁹

By 2000, estimates for China's oil imports indicate they will double that of 1995

⁶⁵General Ding Henggao, PLA, "Reforming Defense Science Technology and Industry," *China Military Science*, Summer 1994, cited in Michael Pillsbury, *Chinese Views of Future Warfare*, (Washington D.C.: National Defense University Press, 1997), 166.

⁶⁶China's domestic offshore oil production represents less than 10 percent of total production. *Xinhua* (Beijing), "South China Sea Oil Company Leads in Offshore Output," FBIS, 25 February 1998.

⁶⁷China's foreign oil import figure for 1996 represents an increase of 32.2 percent over 1995. *Xinhua* (Beijing), FBIS, 12 October 1997.

⁶⁸*Xinhua* (Beijing), "PRC Needs to Exploit More Overseas Oil," FBIS, 16 October 1997.

⁶⁹*Xinhua*, 12 October 1997.

levels to reach one MBPD and by 2010 reach three MBPD.⁷⁰ By 2010, estimates for China's oil and gas imports are estimated to reach four MBPD⁷¹ and between 4-10 MT of LNG/LPG respectively.⁷² By 2020, China's oil production is estimated at 200 MT and consumption at 415 MT; this indicates China's foreign oil imports will exceed 200 MT annually.⁷³ Increases in oil imports can be expected by China from foreign nations depicted in Figure 2.

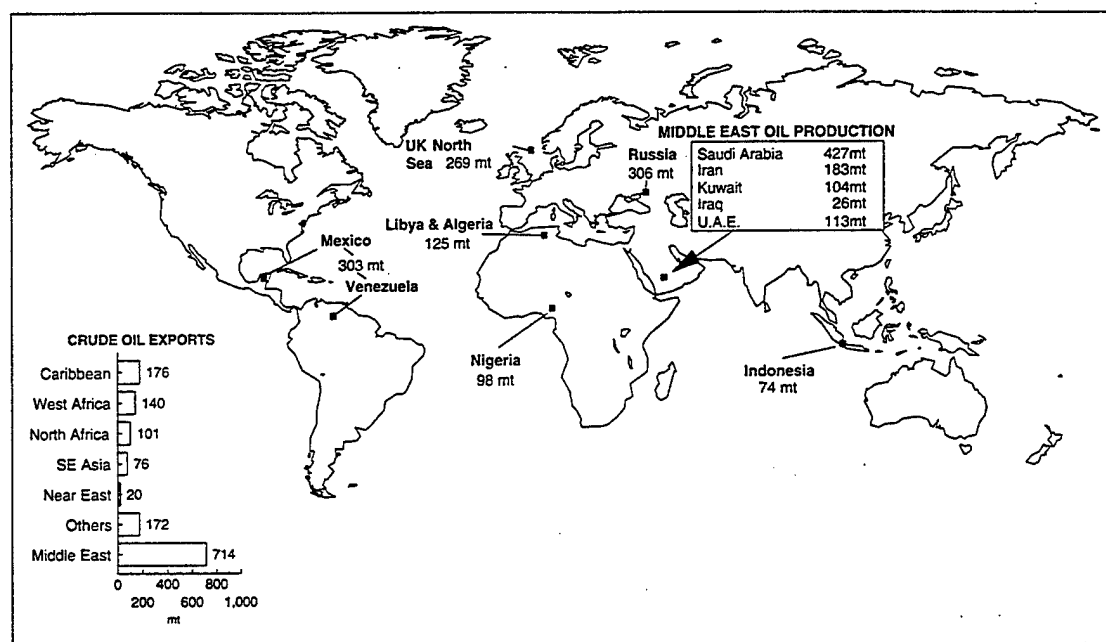


Figure 2. Major Crude Oil Exporters⁷⁴

⁷⁰*The Strait of Hormuz: Global Shipping and Trade Implications in the Event of Closure*, (Suitland: Office of Naval Intelligence, August 1997), 62. Chinese estimates indicate that by 2000, China's annual oil imports will triple to between 25-30 MT, or between 20-30 percent of total oil and gas consumption. Figures are CNPC's estimates for net crude oil imports, cited in "China Net Crude Oil Imports to Triple by 2000," *AP-Dow Jones News Service*, 12 February 1997.

⁷¹Jacob Heilbrunn, "Facing Up to the Real China Problem," *Los Angeles Times*, 28 April 1997, 2. By 2010, oil import estimates total 7.8 MBPD for the U.S., 5.4 MBPD for Japan, and 1.6 MBPD for South Korea. Cited in David Hale, "Is Asia's High Growth Era Over?," *The National Interest*, Spring 1997, 55.

⁷²Peter Kemp, "LNG Risks Rise As Asia Turns Down," *MEED*, 20 March 1998, 2. By 2005, China's imports of polyethylene are estimated to total 2.4 MT, an increase of 60 percent from current levels. "Asian Promise Fuels Petrochemicals Push," *Cargonews Asia*, 29 March 1998.

⁷³*Clear Water, Blue Skies: China's Environment in the New Century*, (Washington D.C.: The World Bank, 1997), 49.

⁷⁴Martin Stopford, *Maritime Economics*, (London: TJ International Ltd., 1997), 307.

China's inland transportation infrastructure is inadequate for transporting oil from China's interior. It is cheaper and faster for China to import oil by ships to China's coast where the majority of China's population and industry are located. China currently owns few large capacity oil carriers, such as "very large crude carriers" (VLCCs), that are capable of transporting large volumes of oil. China relies on foreign contracted VLCCs to import oil from the Middle East, Africa, and South America. By 2010, China's foreign oil import demand is estimated to require 500 VLCC trips annually.⁷⁵ To meet China's expected future oil import demand, China has recently completed several new oil terminals capable of handling VLCCs in Qingdao, Ningbo, and Guangdong Province.⁷⁶

China's decreasing oil production and increasing consumption increases China's requirements of domestic and foreign MMF's to import oil. In response, China reorganized its MSI to improve efficiency and is building more oil and gas carriers. In 1997, a new joint venture between Hong Kong-based Ming Wah Shipping Company, China International United Petroleum & Chemicals (UNIPEC), and Singapore-based Kangqi Oil formed Eastbound Navigation Company for trading oil both in China and international markets.⁷⁷ In 1998, China created the Oil Tanker Company, comprised of 96 oil tankers with a capacity of 2.56 MT, or 50 percent of China's maritime transport capacity for oil.⁷⁸

⁷⁵A typical VLCC carries between 200,00-300,000 DWT of oil. Daniel Y. Coulter, "China's Economic Growth: A Function of Maritime Infrastructure," *Office of Naval Intelligence*, 1997.

⁷⁶These VLCC oil terminals are coincidently in close proximity to the PLAN's fleet concentration bases of the North Sea Fleet (Qingdao), East Sea Fleet (Ningbo), and South Sea Fleet (Guangdong). Mathew Flynn, "New Oil Player Born," *Lloyd's List Maritime Asia*, July 1997, 4-5.

⁷⁷Ming Wah's seven VLCCs and other oil tankers of smaller size have a carrying capacity of over three million MT. *Ibid.*, 4-5.

⁷⁸Zhide and Yizhen.

C. INDUSTRIAL AND FOOD IMPORT DEPENDENCIES

According to the Organization For Economic Co-Operation and Development (OECD), "Contrary to popular perception, China is not rich in non-fuel minerals" and "In many products, domestic Chinese ores are often remote from markets, high-cost, and of inferior quality."⁷⁹ As a result, China's primary import dependencies on strategic foreign resources include iron ore, coal, grain, and other minerals. China's imports of chromium, cobalt, manganese, and platinum are primarily from the Former Soviet Union and Africa.⁸⁰

Steel production is a major industry that China depends upon for economic development.⁸¹ Since 1988, China's annual iron ore and energy imports have increased steadily to meet steel production demand. Between 1989-1994, iron ore imports increased from 12.5 MT to 37.3 MT, a 200 percent increase.⁸² In 1996, China became the world's largest steel manufacturer with an annual output of 101.1 MT.⁸³

By 2000, China's iron ore imports are estimated to reach 50 MT, or a 10-15 percent share of the world's market for iron ore.⁸⁴ By 2010, China's annual steel production is estimated to increase to 160 MT, thus increasing China's foreign iron ore imports to between 10-20 percent of consumption.⁸⁵ As a result, increases in maritime shipping of iron ore

⁷⁹*China in the 21st Century: Long-Term Global Implications*, (Paris: Organization For Economic Co-Operation and Development [hereafter OECD], 1996), 15.

⁸⁰See Kent Hughes Butts, *Strategic Minerals in the New World Order* (Leavenworth: Strategic Studies Institute, U.S. Army War College), 30 November 1993, 99.

⁸¹Due to its inefficient use of energy, China's iron and steel industry consumed nearly 30 percent of China's total energy consumption in 1991, thus further increasing oil imports. OECD, 104.

⁸²Drewry, 93.

⁸³PRC Embassy (Washington) "Some Facts and Figures for China in 1996," 2 October 1997. Online. Available HTTP:<http://www.china-embassy.org/cgi-bin/press.pl?324>. 15 December 1997.

⁸⁴Ibid. See "China Came the First In Steel Output," *Beijing Review*, 20-26 January 1997, 5.

⁸⁵OECD, 105.

imports by China from foreign nations can be expected in several of the following ports depicted in Figure 3. China's foreign iron ore imports are from Brazil, Australia, Peru, South Africa, North Korea, and Venezuela.⁸⁶

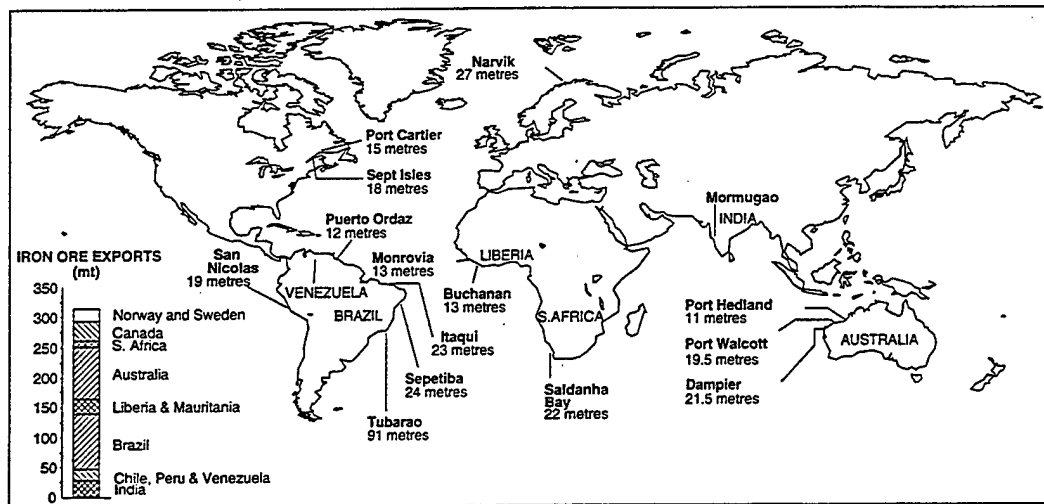


Figure 3. Major Iron Ore Exporters and Ports⁸⁷

Coal provides 75 percent of China's energy needs. By 2000, coal consumption for China's electricity generation is estimated to increase 30-40 percent from 1993 levels.⁸⁸ Although China is the world's fifth largest coal producer, it relies on foreign imports of coal from Australia, New Zealand, North Korea, Vietnam, Myanmar, and South Africa. If China's domestic coal production continues to decrease and consumption increases, increases in maritime imports by China from foreign nations can be expected in the following ports depicted in Figure 4.

⁸⁶Ibid.

⁸⁷Stopford, 319.

⁸⁸Ibid., 27.

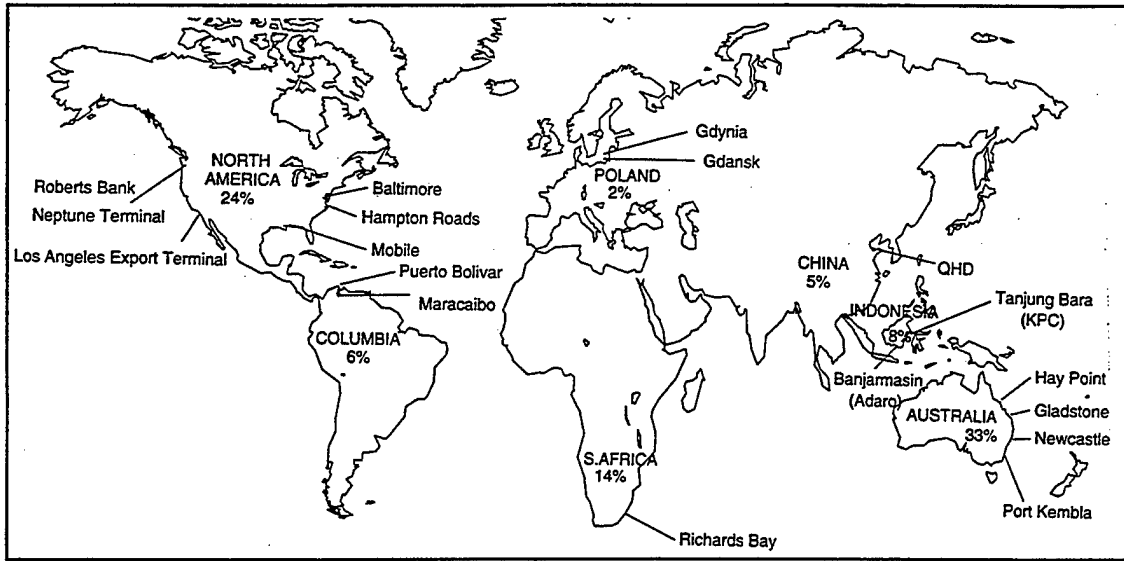


Figure 4. Major Coal Exporters and Ports⁸⁹

China's current population of over 1.2 billion is expected to increase to 1.4 billion by 2010 and to 1.7 billion by 2025, or between 22-24 percent of the world's total.⁹⁰ Much of China's land mass is not suitable for farming due to urban growth and soil erosion. To feed its population, China imports five percent of its grain consumption, or 75 million metric tons (MMT), primarily from Australia, Argentina, Canada, and the United States.⁹¹

By 2020, estimates for China's consumption of grain will be just under 700 MMT while production will be between 600-670 MMT.⁹² As a result, China's grain imports will be between 30-90 MMT; this represents an increase in import dependence as high as 14 percent of total grain consumption.⁹³ The OECD cites other estimates that indicate China's

⁸⁹Stopford, 322.

⁹⁰OECD, 13.

⁹¹"Taiwan Plans Grain Hub," *Fairplay*, 31 July 1997, 57.

⁹²*China 2020: Development Challenges in the New Century*, (Washington D.C.: The World Bank, September 1997), 62.

⁹³*Ibid*, 68-92.

grain imports could reach between 100-200 MMT by 2015.⁹⁴ As a result, China can be expected to increase its grain imports from foreign nations and ports depicted in Figure 5.

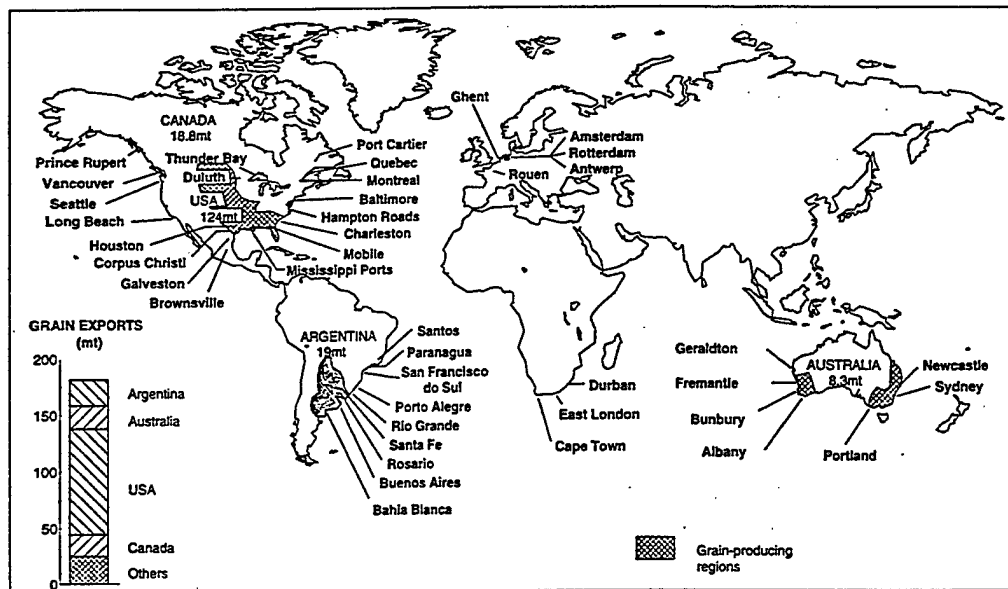


Figure 5. Major Grain Exporters and Ports⁹⁵

In conclusion, estimates based on China's current consumption and production indicate it will be among the world's largest importers of strategic resources in the near future.⁹⁶ A majority of these imports will be from Asia, the Middle East, Africa, and South America. China's economic growth and stability will depend upon maritime shipping in these regions. China's import requirements for resources are beyond China's MMF's handling capability and will cause China to depend upon foreign MMFs to handle SFT.

⁹⁴OECD, 14. While China's per capita consumption of grain is estimated to slightly decrease, consumption of meat and fish is estimated to double by 2010. This will result in China increasing its imports of meat and livestock from Australia, New Zealand, Argentina, and the United States. OECD, 13.

⁹⁵Stopford, 326.

⁹⁶By 2020, China is expected to be the world's third largest oil and gas importer with annual oil import costs reaching \$200 billion. In comparison, the cost for China's total imports of all commodities in 1996 totaled \$132 billion. Hale, 55.

V. SINO-FOREIGN MARITIME ECONOMIC INTERDEPENDENCIES

From the Persian Gulf to the Caspian Sea, China's need for a reliable and efficient supply of energy to fuel its growth can make it a force for stability in these strategically critical regions.

President Clinton, *Address on China and the National Interest*, 1997

Beijing pursues SFT with developing nations in Asia, the Middle East, Africa, and Latin America to increase imports of energy, industrial, and agriculture resources. Several new energy production facilities in developing nations will be operational in the near future. The Asian financial crisis has led to lower energy demand in Asia, except for China. As a result, foreign oil producers are motivated to increase their energy exports to China.

China's imports of strategic resources are increasing through the expansion of large-scale Chinese energy and industrial construction projects in foreign countries.⁹⁷ Between 1979-1996, China signed 107,000 overseas contracts for such projects valued at \$60 billion.⁹⁸ In 1996, the value of new overseas contracts totaled \$10 billion, a 6.2 percent increase over 1995.⁹⁹ In 1997, China signed 28,400 contracts totaling \$11.36 billion; an increase of 10.5 percent over 1996.¹⁰⁰ In 1997, 27 of the world's 225 largest contractors were Chinese.¹⁰¹

As of October 1997, China had 230 foreign contracts, worth \$1.6 billion, to develop

⁹⁷China has actual or committed oil and gas-related investment in Canada, Peru, Thailand, Indonesia, Russia, Kazakhstan, Venezuela, Malaysia, Pakistan, Iran and Iraq. *Xinhua*, (Beijing), FBIS, 12 October 1997. Other projects include coal production, metallurgy, geology, machine-building, chemicals, ports, and highways. *PRC Embassy* (Washington), 17 April 1998, 2.

⁹⁸Ibid.

⁹⁹Ibid.

¹⁰⁰Gao Wei, "Diversification To Aid Contractors," *China Daily* (Hong Kong), FBIS, 22-23 February 1998, 1.

¹⁰¹According to a U.S. Engineering News Record. Ibid.

foreign oil and gas reserves.¹⁰² In 1996, China imported 700,000 tons of crude oil originating from Sino-foreign cooperative oil production joint ventures in foreign nations.¹⁰³ As of 1998, China has committed over \$8 billion to acquire oil field concessions or joint production rights with over 23 countries to include Azerbaijan, Canada, Italy, Iran, Iraq, Kuwait, Pakistan, Peru, Russia, Sudan, Thailand, Turkmenistan, and Venezuela.¹⁰⁴

China's liberalization of its MSI is resulting in more foreign shipping companies handling SFT. In 1995, China had 230 companies engaged in international maritime transportation, of which 77 were Sino-foreign joint ventures. In 1997, foreign shipping companies operated on 140 of China's 220 international trade routes.¹⁰⁵ As of early 1998, foreign shipping companies had established over 400 representative offices in China and had 120 joint ventures with China's MSI.¹⁰⁶ China's MSI has bilateral cooperative shipping relationships with shipping companies from 45 foreign nations and port relations with over 20 foreign ports.¹⁰⁷ China is a member of 11 organizations and a signature country to 37 conventions relating to the international MSI.¹⁰⁸

China's COSCO has an alliance with Japan's K-Line and Taiwan's Yang Ming shipping companies. Together they rank fifth in terms of cargo handling capacity among the

¹⁰² According to Qin Anmin, manager with the China Petroleum Engineering Construction Company (CPEC) in a speech to the 15th World Petroleum Congress. *Xinhua* (Beijing), "PRC Needs to Exploit More Overseas Oil," FBIS, 16 October 1997.

¹⁰³ Ibid.

¹⁰⁴ David B. Ottaway and Dan Morgan, "China Pursues Ambitious Role in Oil Market," *The Washington Post*, 26 December 1997, p. A01.

¹⁰⁵ "China to Open Further," *Fairplay*, 14 May 1998, 14.

¹⁰⁶ Ibid.

¹⁰⁷ Ottaway and Morgan.

¹⁰⁸ Ibid.

world's six major shipping alliances.¹⁰⁹ Hong Kong-based OOCL is a member of the Grand Alliance,¹¹⁰ the largest of the top six alliances. China's MSI expansion strategy within these and expected future alliances, to increase SFT in developing regions, is described by a high-ranking Chinese bureaucrat who stated:

Transport should be part of China's diverse strategy for foreign trade . . . especially in view of the financial turmoil in South East Asia. China should consolidate markets in Europe and America and put more energy into Africa, the Middle East, Commonwealth of Independent States, Eastern Europe, Latin America, South Asia, and the South Pacific.¹¹¹

Foreign shipping companies are expanding their alliances with China's MSI to profit from China's strategic resource import requirements. In 1997, the U.K.'s P&O Bulk Shipping division formed a joint venture with China's Shougang Group by joining their dry bulk fleets to import iron ore from Chinese-owned mines in Peru.¹¹² China's COSCO also cooperates with Japan's Mitsui OSK Lines (MOL), Nippon Yusen Kaisha (NYK)¹¹³ and South Korea's Hanjin to handle trade between Asia, Europe, and North America.¹¹⁴

In 1997, COSCO employed over 12,000 Chinese crewman on foreign-owned ships to include Japan, Singapore, Taiwan, and the United States.¹¹⁵ In 1998, a new subsidiary of COSCO was formed to provide foreign nations' MSI with Chinese personnel to crew ships

¹⁰⁹"Top Six Line Up For Battle," *Cargonews Asia*, 12 March 1998, Online. Available HTTP:http://www.asia1.com.sg/cgi-bin/ship/sp_dnews. 17 April 1998.

¹¹⁰Besides OOCL, the Grand Alliance includes P&O Nedlloyd, Hapag-Lloyd, NYK, and MISC.

¹¹¹According to Liu Xiangdong, MOFTEC. *Xinhua* (Beijing), "Transport Part of Foreign Trade Strategy," FBIS, 20 February 1998.

¹¹²This entity owns one of the world's largest fleets of this class with 27 ships comprising 4.3 million DWT. "P&O Merges Its Bulk Fleet," *Fairplay*, 4 December 1997, 7.

¹¹³Philip Damas, "COSCO Enters Space-Sharing Deal," *American Shipper*, October 1996, 9.

¹¹⁴Paul Richardson, "Hanjin Introduces CAX II," *Cargonews China*, March 1998. Online. Available HTTP:<http://web3.asia1.com.sg/timesnet/data/cnc/docs/cnc0359.html>, 25 March 1998.

¹¹⁵"COSCOMAN Takes Europe," *Fairplay*, 20 November 1997, 27.

and provide port engineering, technical, and management services.¹¹⁶ COSCO's maritime colleges graduate over 1,200 merchant ship officers and ratings annually. Chinese masters, second officers, and bosuns are paid between 25-50 percent less than their counterparts in India, Pakistan, the Philippines, Poland, Russia, South Korea or the United Kingdom.

A. ASIA AND THE WESTERN PACIFIC

In Asia, Beijing focuses on increasing of SFT with nations comprising the Association of East Asian Nations (ASEAN), Australia, and Taiwan.¹¹⁷ China's strategy for increasing its political and economic influence with ASEAN is to participate in bilateral and multilateral economic and political forums.¹¹⁸ In 1996 China was admitted to the post-ministerial conference as a full dialogue partner in ASEAN. China's influence is exerted through five multilateral forums which include the ASEAN-China Joint Cooperation Committee, the ASEAN-China Senior Officials Political Consultations, ASEAN-China Joint Committee on Economic and Trade Cooperation, ASEAN-China Joint Committee on Science and Technology, and the ASEAN Committee in Beijing.¹¹⁹

Between 1986-1996, Sino-ASEAN trade increased from \$3.35 billion to \$20.4 billion, an annual increase of over 20 percent.¹²⁰ In 1997, bilateral trade volume totaled

¹¹⁶This subsidiary is the China Ocean Shipping Seamen International Technical Service Company. Zhide and Yizhen.

¹¹⁷ASEAN comprises nine members and includes: Brunei, Indonesia, Laos, Malaysia, Myanmar (Burma), Philippines, Singapore, Thailand, and Vietnam.

¹¹⁸One example was at the 1997 Conference of the UN Human Rights Committee when the majority of ASEAN nations did not support condemning China over alleged human rights abuses.

¹¹⁹*PRC Embassy* (Washington), "China, ASEAN Strengthens Dialogue Mechanisms," 27 February 1997, Online. Available HTTP:<http://www.china-embassy.org/cgi-bin/press>. 17 April 1998.

¹²⁰He Kai, "Looking Back and to the Future of China-ASEAN Relations," *Beijing Review*, 23 February-1 March 1998, 6.

\$17.3 billion, a 23.8 percent increase over 1996.¹²¹ In 1996, ASEAN's investment in China's economy consisted of 12,342 joint ventures totaling \$34.3 billion.¹²² As of mid-1997, China had 529 commercial joint ventures in ASEAN valued at \$850 million.¹²³ In 1997, Chinese Premier Li Peng led a 40-member Chinese trade delegation to encourage bilateral trade and investment with Laos, Malaysia, Myanmar, Singapore, and Thailand. In 1997, political and business leaders from Laos, Malaysia, Singapore, Thailand, and Vietnam visited China to discuss measures for increasing bilateral trade and investment.

In 1997, China's exports to ASEAN increased by 6.6 percent and represented 29 percent of China's total foreign exports.¹²⁴ In 1997, China's foreign investment in energy and construction in Asia totaled \$8.37 billion or 74 percent of China's total overseas foreign investment.¹²⁵ China's primary imports from ASEAN include oil, LNG, LPG, grain, sugar, palm oil, wood, rubber, and tin. China's primary energy imports from the Asia-Pacific region come from Australia, Malaysia, the Philippines, Singapore, Indonesia, and Thailand.

In response to the Asian financial crises, China hosted a conference during July 1997, where leading banking officials from the Asia-Pacific region met to discuss measures to alleviate economic distress. One result was that Beijing granted Thailand a \$1 billion loan to help that country's economy to recover. At the end of 1997, China and ASEAN issued a joint statement that: "The focus in 1998 will be on promoting bilateral trade, economic

¹²¹Ibid.

¹²²Includes current and proposed contracts. Kai, 6.

¹²³Ibid.

¹²⁴Xie Xiaolin, "Financial Turmoil Perspective," *Zhongguo Xinwen She* (Beijing), FBIS, 17 February 1998.

¹²⁵Wei, 1.

relations, and collaboration on regional and sub-regional economic projects [and] promote trade and investment, improve mutual market access and technology flow.”¹²⁶

1. Case Study: Singapore

Since 1995, Sino-Singaporean MSI cooperation has increased significantly after both nations agreed to allow COSCO ships permission to fly the Singapore flag. In 1995 bilateral maritime shipping handled \$6.85 billion worth of goods, an increase of 27 percent over 1994.¹²⁷ In 1996, shipping container volume increased by 60 percent over 1995 as a result of a 22 percent increase in Chinese imports from and a 30 percent increase in exports to Singapore.¹²⁸ In 1997, China’s MSI gained a 22 percent market share of Singapore’s foreign new ship construction orders with 20 ships comprising 493,203 DWT.¹²⁹

Since 1996, COSCO has used Singapore as its base for Sino-foreign shipping operations in Asia. In 1997, China’s COSCO and Singapore’s Port of Singapore Authority (PSA) signed a long-term bilateral shipping terminal services agreement to set shipping prices and regular shipping schedules.¹³⁰ This expanded COSCO’s access to Singapore as a regional base for repairing its ships and transshipping containers within and without the Asia-Pacific region. In 1993, COSCO bought a 60 percent share in Singapore’s Sun Corporation, a shipping and oil-trading company to facilitate oil imports to China.¹³¹

PSA is one of the largest companies specializing in constructing and managing ports

¹²⁶Ibid., 7.

¹²⁷Weihua Yan and Jian Liu, “Trade Surges Between China and Singapore,” *China News Digest*, 2 February 1996.

¹²⁸Ibid.

¹²⁹“World Ships on Order by Shipyard,” *Fairplay*, 17 April 1997, 26.

¹³⁰*Fairplay*, 29 April 1997.

¹³¹“Maritime Pacts Set to be Signed With China,” *Bangkok Times*, FBIS, 26 March 1997.

for foreign countries. PSA is upgrading maritime transportation infrastructure in the Chinese ports of Dalian, Changsu, Shanghai, Suzhou, and Taicang. PSA also cooperates with China's MSI by providing it access to port terminals and warehouses in several international foreign ports.¹³² PSA and its subsidiaries have either constructed or provided shipping-related services to ports in Brunei, Cambodia, French Polynesia, Myanmar, Sri Lanka, the Philippines, Italy, Malaysia, Indonesia, Thailand, Vietnam, Oman, South Korea, Kenya, and the United Arab Emirates (UAE).¹³³

2. Case Study: Thailand

Thailand is motivated to expand Sino-Thai MSI cooperation to increase Thai exports, improve its port infrastructure, reduce maritime transportation costs, and increase its domestic shipping capacity. China wants to export manufactured goods to Thailand and import energy and agricultural products. In 1997, China and Thailand signed several agreements to promote Sino-Thai maritime trade and MSI cooperation. The benefits to China's COSCO include increased market share of transporting Thailand's foreign trade and access to Thailand's ports. While full implementation of these agreements is still pending, a Thai Transport Ministry official said details of these agreements include:

Training exchanges of personnel in maritime businesses, mutual cooperation for the respective commercial fleets, and the PRC'S assistance in the establishment of a new joint venture company to manage Thailand's national

¹³²The majority of PSA's foreign port management and construction agreements involve long-term projects. One example is a 20-year contract between PSA and Yemen to manage the Port of Aden which will offer transshipment service for cargo between East Africa, the Middle East and outside the region. Felix Chan, "PSA Takes Equity Stake in Aden Terminal Project," *Cargonews Asia*, 22 October 1997. Online. Available HTTP:http://www.asia1.com.sg/cgi-bin/ship/sp_dnews. 19 April 1998.

¹³³"First Asia, Then the World: PSA Corp Goes Global," *Fairplay*, 19 March 1998, 20-22.

merchant fleet, the Thai Shipowners Association (TSA).¹³⁴

Reportedly, Thailand's then Prime Minister Chavalit personally intervened on COSCO's behalf to support its proposed 49 percent ownership bid for TSA. However, Chavalit received criticism for his actions by Thai government officials fearful of giving China too much control over Thailand's MSI. Despite these disagreements, COSCO continues to increase levels of Sino-Thai MSI cooperation. In 1997, COSCO began using the Thai port of Laem Chabang for transshipping cargo between Thailand, Japan, and the U.S. COSCO offered this service at rates 30-40 percent lower than similar rates and services for cargo transhipped through Singapore.¹³⁵

Through these agreements, Beijing influenced Bangkok to establish a "Sino-Thai Cooperative Maritime Fund."¹³⁶ The purpose of this fund is to finance expansion of the TSA and offset capital reductions in Thailand's MSI budget due to Thai budget short falls. Beijing also influenced Thailand to waive terminal handling and "bill-of-lading" charges for COSCO ships calling in Thailand.¹³⁷ Thailand also agreed to guarantee that COSCO ships be allocated 20,000 TEUs annually and failure to do so would result in fines on TSA of \$200 per TEU below the established quotas.¹³⁸

3. Case Study: Malaysia

The motivations of Sino-Malaysian MSI cooperation are found in China's

¹³⁴"Thai on the Rack, COSCO Tightens the Noose Round Chavalit," *Fairplay*, 1 May 1997, 18.

¹³⁵Michael Vatikiotis, "A Friend in Need," *Far Eastern Economic Review* [hereafter *FEER*], 10 July 1997, 32.

¹³⁶*Ibid.*

¹³⁷*Ibid.*

¹³⁸*Ibid.*

requirements to import oil, palm oil, tin, copper, iron ore, and bauxite from Malaysia. Malaysia needs to earn foreign exchange by increasing its exports to China and other nations, particularly in the wake of the Asian financial crises. Malaysia's privatization of its MSI infrastructure in Klang, Penang, Kuantan, Pasir Gudang, and Bintulu has also encouraged cooperation by providing opportunities for China's MSI to invest in Malaysia's MSI.¹³⁹

In 1997, a delegation of six senior Chinese trade and political officials conducted an eight-day visit in Malaysia to increase the level of Sino-Malaysian joint production of petrochemicals and other natural resources.¹⁴⁰ One current Sino-Malay joint venture is the Salutory Insign which manufactures petrochemicals for export to China.¹⁴¹ CNPC also has a joint agreement with Malaysia's Petronas to develop Malaysian-owned oil fields.

In 1997, a Sino-Malaysian shipping company, Perkapalan Shanghai-Sino (M) Bhd's (PSS), was formed between Shanghai-based Sinotrans and the Penang-based Su Hock Company. According to one Malaysian PSS executive who stated: "Trade volume between China and Malaysia is definitely growing and there is therefore a need for us to serve our principal, Sinotrans . . . as well as other Chinese shipping lines in the future."¹⁴²

In 1997, of Malaysia's total foreign ship orders, China accounted for six ships comprising 273,000 DWT or 23 percent of the total.¹⁴³ Since 1995, COSCO has owned a majority share of Coslink, a Sino-Malaysian joint venture, with the Malaysia's Chung Chiao

¹³⁹"The Chase Is On: Peninsula Ports Strive For Market Share," *Fairplay*, 27 November 1997, 44.

¹⁴⁰Proposed projects included those related to petroleum resin, palm oil, blended oil solvents, clay, and rubber. "China Holds Big Potential for Malaysian Products," *Malaysia Star News*, 15 April 1997.

¹⁴¹China owns a 70 percent share in this joint venture. *Ibid.*

¹⁴²S.C. Chan, "Sinotrans Joint Venture Offers Klang Service," *Cargonews Asia*, 15 April 1997.

¹⁴³*Fairplay*, 17 April 1997, 26.

Shipping and Guan Guan Shipping.¹⁴⁴ During 1995, COSCO carried more than 40 percent of Sino-Malaysian trade.¹⁴⁵ In 1995, Sino-Malaysian trade increased by 50 percent over 1994 primarily due to China being the largest recipient of Malaysian palm oil exports.

China's MMF can be expected to increase its handling of Sino-Malaysian trade due to COSCO's consolidation and expansion of its MSI presence in Malaysia. Further Sino-Malaysian joint ventures in MSI cooperation and resource production will result in additional maritime transportation requirements of bulk petrochemicals for China's MMF. China's MSI is increasing the level of its operations in the Malaysian ports of Klang, Kuantan, Sabah, and Sarawak due to their close proximity to sources of oil, gas, and palm oil.¹⁴⁶

4. Case Study: Myanmar

Sino-Myanmar annual bilateral trade currently exceeds \$1.5 billion. Myanmar has both onshore and offshore oil reserves that China wants to import. China represents a market for Myanmar's exports. China's political and economic relationships with Myanmar provide China with commercial and potential naval access to Myanmar's ports. It is faster and cheaper for China to import and export commodities to China's Southwestern interior provinces through Myanmar's ports. China's MMF handles commodities in Myanmar's ports, from where they transported by rail between these ports and the Sino-Myanmar border.

In 1997, China was the only foreign supplier of new merchant ship orders for Myanmar. Upon delivery by late 1998, three dry cargo ships comprising 27,000 DWT for

¹⁴⁴Ibid.

¹⁴⁵Sid Astbury, "COSCO Builds Presence in Malaysia," *Cargonews Asia*, 24 April 1995.

¹⁴⁶Malaysia is the world's largest exporter of palm oil. In 1996, China imported 87 MT of palm oil from Malaysia. "Pressure on Palm Oil," *Fairplay*, 27 November 1997, 47.

the Yangon-based Myanmar Five Star Line Company, will have increased Myanmar's total shipping capacity by 5 percent.¹⁴⁷ In addition to exporting merchant ships to Myanmar, China's MSI has exported naval combatants to Myanmar including 16 Hainan class patrol boats (PBs).¹⁴⁸ Reportedly, Myanmar has ordered two Jianghu class frigates and 10 additional Hainan PBs from the China Shipbuilding Trading Company.¹⁴⁹

Since 1988, China's MSI has assisted Myanmar in building commercial port facilities.¹⁵⁰ In 1996, the Hong Kong-based Hutchison Port Holdings (HPH), formed a joint venture with Singapore's C&P Holdings to build and operate a one KM-long ship berth and container terminal at the port of Thilawa, near Yangon.¹⁵¹ In 1997, the Shanghai-based ZMPC crane manufacturing company signed a contract to supply three shipyard gantry cranes for installation at Thilawa.¹⁵²

5. Case Study: Taiwan

China's foreign resource dependencies also influence levels of trade between China and Taiwan. In 1997, China and Taiwan agreed to begin direct cross-strait maritime shipping between each other's ports.¹⁵³ In April 1997, China's COSCO and Taiwan's Yang Ming shipping companies began limited direct sailing of their foreign-flagged ships between the

¹⁴⁷*Fairplay*, 17 April 1997, 26.

¹⁴⁸Kay Merrill, "A Closer Look at Sino-Burmese Military Links," *Jane's Intelligence Review*, July 1997, 323.

¹⁴⁹Micool Brooke, "The Armed Forces of Myanmar," *Asian Defence Journal*, January 1998, 14.

¹⁵⁰*Ibid.*, 16.

¹⁵¹HPH is a major international port construction and management company. "Global Options," *Cargo Systems*, December 1996, 52.

¹⁵²Each crane will have a lift capacity of 40 tons. *Cargo Systems*, January 1997, 38.

¹⁵³*Xinhua* (Beijing), "China-Taiwan: Beijing, Taipei Take Breakthrough First Step on Direct Shipping," FBIS, 30 January 1997.

Chinese ports of Fuzhou and Xiamen in Fujian province and Taiwanese port of Kaohsiung.¹⁵⁴

The current level of direct cross-strait shipping is low. However, as these levels increase, Beijing will be better able to use these links and its MSI to gain economic influence if it can increase Taiwan's maritime economic dependency on China. Taiwan already serves as a "transshipment hub" for imports and exports between China and foreign markets. Bilateral MSI cooperation between the two nations also involves shipping service cooperation to transport foreign trade to other nations. China's future intentions include using COSCO to earn profits from carrying trade to the West Coast of the United States via Taiwan.¹⁵⁵ China's COSCO and Taiwan's Yang Ming shipping companies have a vessel-sharing agreement to handle trans-Atlantic trade.¹⁵⁶

In July 1997, Taiwan's state-owned Chinese Petroleum Corporation (CPC) announced it would build a large oil refinery and petrochemical complex in Taiwan. When complete this new complex is expected to produce paraxylene and benzene for export to China. In 1997, Taiwan announced it would cooperate with companies from Japan and South Korea to build Asia's largest transshipment center for exporting agriculture products to China. When completed this center, to be located in southern Taiwan, can be expected to increase maritime shipping of agriculture products between China and the region.

¹⁵⁴Reuters, cited in "Taiwan Gives Nod to Yang Ming, Cosco For Cross-Strait Sailing," *Cargonews Asia*, 9 April 1998, Online. Available HTTP:http://www.asia1.com.sg/cgi-bin/ship/sp_dnews. 24 April 1998.

¹⁵⁵Julian Baum, "A Long Wait Ahead," *FEER*, 30 April 1998, 68.

¹⁵⁶Marcus Hand, "Yang Ming to Join New World's Asia-Med Service," *Cargonews Asia*, 15 March 1998. Online. Available HTTP:http://www.asia1.com.sg/cgi-bin/ship/sp_dnews.pl, 24 April 1998.

6. Case Study: Australia

China relies on Australia for imports of metals, minerals, and agriculture products. Australia relies on China as a source of export earnings. China is Australia's third largest trading partner. In 1997, bilateral trade totaled over \$5 billion. During 1997 in Beijing, China's Premier Li Peng told visiting Australian Prime Minister John Howard that: "With China and Australia able to provide each other with needed commodities, China foresees a bright future for bilateral economic cooperation."¹⁵⁷ During the same visit, China's Vice-Premier Zhu Rongji said: "Australia's Asia-oriented policy and China's opening-up have bound the two countries together as significant trade and investment partners."¹⁵⁸

The value of Sino-Australian economic cooperation is increasing Beijing's political, economic, and security influence with Canberra. This influence is described by one Asia security analyst, commenting on Australian Prime Minister John Howard's "fence-mending" visit to Beijing in 1997, stated: "The recent White Paper on Australia's trade and diplomatic interests issued by the Department of Foreign Affairs and Trade identified China as one of Australia's most important 21st Century relationships."¹⁵⁹

China's food import dependencies from Australia are meat, grain, fish, fruit, vegetables, livestock, wheat, barley, maize, lentils, and canola. Since 1990, China has depended on iron ore imports from Australia. A majority of this ore originates from two Sino-Australian joint ventures in which China has a 40 percent ownership stake in two

¹⁵⁷"China, Australia Hail Closer Ties," *Beijing Review*, 21-27 April 1997, 5.

¹⁵⁸*Ibid.*

¹⁵⁹Dr. Gary Klintworth, "Australia-China Defence Relations Back on Track," *Asia-Pacific Defence Reporter*, December 1997-January 1998, 14.

mines.¹⁶⁰ Sino-Australian MSI cooperation can be expected to increase due to China's need for Australia's minerals and food products and China's investment Australian ports.¹⁶¹ China is further motivated to use its influence with Australia to gain MSI linkages and access to strategic resources by capitalizing on Australia's relationships with nations in the Western Pacific.¹⁶²

In 1997, Australia supported China politically by reversing for the first time its previous support for the UN's annual resolution condemning Beijing's human rights policies. Beijing influenced Canberra to drop its support this resolution by offering economic trade incentives which would help Australia's economy. In June 1997, China's Vice Premier Zhu Rongji visited Australia and said: "Australia is China's fastest growing trade partner [and China] pledges to expand wool imports and invest more in Australia's iron ore industry."¹⁶³

B. THE MIDDLE EAST, CENTRAL ASIA, AND PERSIAN GULF

Levels of China's SFT in the Middle East and Central Asia be expected to increase due to China's desire to increase oil, LNG, and LPG imports from secure and reliable sources and suppliers. The regions of the Middle East and Central Asia, depicted in Figure 6, contain approximately 70 percent of the world's oil reserves and 40 percent of gas reserves.¹⁶⁴ China desires to gain market share for its export commodities in the region. In 1995, the value of Sino-Middle East trade exceeded \$5 billion, with China's exports to the region

¹⁶⁰Drewry, 28.

¹⁶¹China is motivated to import resources such as aluminum, manganese, nickel, gold, silver, and uranium, of which Australia is a major exporter.

¹⁶²China is interested in increasing SFT with Papua New Guinea which has large reserves of Oil, LNG, cobalt, nickel, gold, and other minerals. See "PNG on the Edge," *Fairplay*, 14 May 1998, 20-21.

¹⁶³"Cheap Chinese Arms," *Asian Defence Journal*, July 1997, 58.

¹⁶⁴The Caspian Sea is considered part of Central Asia. See Michael S. Lelyveld, "Greater Asian Role Seen in Persian Gulf, Caspian Sea," *Journal of Commerce*, 12 November 1997, 20.

nearly double that of its imports.¹⁶⁵



Figure 6. The Middle East and Caspian Sea Regions¹⁶⁶

Middle East oil producers desire to secure long-term and reliable export markets for their petrochemicals.¹⁶⁷ By 2002 there will be six new large-capacity oil, gas, and petrochemical facilities in the Middle East producing petrochemicals export to foreign markets.¹⁶⁸ The region also represents a large potential market for imports of Chinese consumer, industrial, and military goods. Although Chinese goods are often of inferior quality compared to Western goods, they are cheaper and can be re-exported by importers within and without the region.

¹⁶⁵O'Sullivan, 2-3.

¹⁶⁶*Lloyd's Maritime Atlas of World Ports and Shipping Places*, (Essex: Lloyd's of London, 1995), 9.

¹⁶⁷Middle East oil suppliers desire to seek markets in Asia as the reliance by Western recipients of oil in the region decline. In 1996, Saudi Basic Industries Corporation (SABIC), the largest petrochemicals producer in the region, exported 45 percent of its total production to Asia; 15 percent to the Western Hemisphere; and 9 percent to Europe. Robert Trevelyn, "Sabic's Third Wave Set to Engulf Rivals," *MEED*, 3 October 1997, 2.

¹⁶⁸Of these six facilities, three are in Saudi Arabia, and one each is in Qatar, Oman, and the UAE. Ibid.

In addition to economic motivations, China has political motivations for increasing levels of SFT with nations in the region. Because these nations include the Islamic states of Iran and Kazakhstan, China may consider that such interdependence could positively influence the stability of the Islamic majority populations in China's Northwest provinces. In 1998, Beijing strengthened Sino-Middle East economic and political relations by hosting senior political officials from Iran, Pakistan, and Yemen.¹⁶⁹ During these visits, Beijing emphasized bilateral economic cooperation to import strategic energy resources and export Chinese consumer goods and military hardware.

1. Overview of China's Regional Resource Dependencies

China imports crude oil and gas primarily from Saudi Arabia, Oman, Kuwait, Iran, Qatar, and UAE. China's largest Middle East trading partners, ranked by levels of bilateral trade volume, are Saudi Arabia, UAE, Iran, Egypt, Oman, Israel, Kuwait, and Syria.¹⁷⁰

In February 1996 the first meeting of the "Sino-Saudi Arabia Mixed Trade and Economic Committee met to increase bilateral economic cooperation. China imports crude oil, petrochemicals, and fertilizers from Saudi Arabia. Saudi Aramco has also signed agreements with China's Wuhan Petrochemicals and CNPC to build oil refining facilities in Southeast China.¹⁷¹ When these facilities are completed they are expected to refine portions of China's oil imports from Saudi Arabia. A Sino-Saudi agreement reached in late 1997

¹⁶⁹These leaders included Pakistan's Prime Minister Sharif and Yemen's President Saleh.

¹⁷⁰Trevelyn, 2.

¹⁷¹In 1997, Saudi Aramco, Exxon, and China's CNPC and Wuhan Petrochemicals agreed to conduct a feasibility study for a joint petrochemical project in Wuhan. If completed, the facility would increase China's annual refining capacity by 160,000 BPD. *Saudi News Agency* (Riyadh), "Saudi, Chinese, U.S. Sign Accord on Petrochemical Project," FBIS, 13 October 1997.

indicates China will triple the volume of Saudi crude oil imports from 20,000 BPD to 60,000 BPD.¹⁷² By 2000, China's imports of Saudi oil are estimated to reach 350,000 BPD.¹⁷³

In 1995, the China Petroleum Construction Engineering Corporation (CPCEC) reached a \$400 million agreement with Kuwait to build two oil processing facilities.¹⁷⁴ In June 1997, CNPC bought 50 percent of Iraq's Al-Ahdab oilfield as part of a 26-year, \$1.2 -2.0 billion Sino-Iraqi joint oil production agreement.¹⁷⁵ In 1997, China and the United Arab Emirates (UAE) reached agreements whereby China is expected to import larger amounts of crude oil, fertilizers, and aluminum.¹⁷⁶ Future partnership opportunities for Sino-Middle East energy and industrial joint ventures exist in Egypt, Oman, Pakistan, Qatar, and Yemen.

2. Case Study: Iran

China is gaining a major presence in Iran's oil industry which is the third largest producer in OPEC and controls nearly 10 percent of world's total oil reserves. Iran represents a major future oil export outlet for oil and gas originating from the Caspian region, which is illustrated in Figure 7.¹⁷⁷ Oil from Azerbaijan, Kazakhstan, Turkey, Turkmenistan, and Uzbekistan is expected to be transported via pipelines from the region to China via ports

¹⁷²O'Sullivan, 3.

¹⁷³Ibid.

¹⁷⁴Ibid.

¹⁷⁵Al Ahdab has estimated crude oil reserves of 140 million tons. CNPC's foreign oil acquisitions have contributed to increasing its production revenue from \$6 billion in 1993 to \$21 billion in 1997. Trish Saywell and Ahmed Rashid, "Innocent Abroad," *FEER*, 26 February 1998, p. 47-50. Other sources indicate the agreement include CNPC investing \$2 billion over a 26 year period to develop the Al Ahdab oilfield. "China Expected to Grow: Analysts Assess Market Opening," *Fairplay*, 29 January 1998, 27-28.

¹⁷⁶The UAE imports nearly one-third of China's total exports to the Middle East. Liu and Wan.

¹⁷⁷In areas near the Caspian Sea region, Iran has oil reserves of 12 billion barrels (BB) and gas reserves of 11 trillion cubic ft (TCF); Azerbaijan has oil reserves of between 31-38 BB and gas reserves of 46 TCB; and Turkmenistan with 34 BB of oil and gas reserves of between 257-314 TCB, cited in Steve Levine, "Instability by the Barreelful?: Central Asia's Coming Oil Bonanza and Its Consequences," *New York Times*, 17 February 1998, C1.

on the Black Sea and Iran's ports in the Persian Gulf.¹⁷⁸

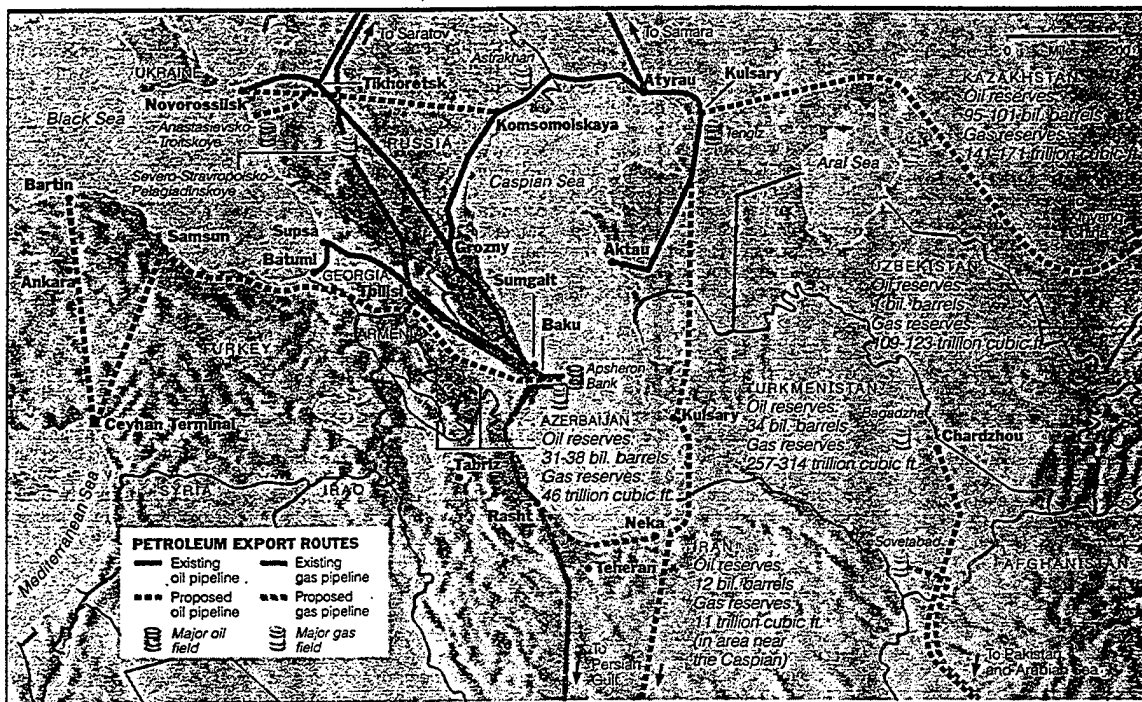


Figure 7. Oil Export Routes of the Caspian Sea Region¹⁷⁹

China is positioning itself to import large volumes of oil from the region as a result of its efforts at increasing Sino-Iranian oil industry cooperation. In 1997 China and Iran reached an agreement whereby the China National Petroleum Company (CNPC) will construct a 1,000 km pipeline connecting Chinese and foreign oil concessions in the Caspian Sea region to refineries in Iran.¹⁸⁰ Both countries also agreed to jointly develop Iran's

¹⁷⁸Vahe Petrossian, "Iran Ready to Play Caspian Oil Game," *MEED*, 7 November 1997, 4-5.

¹⁷⁹*Ibid.*

¹⁸⁰The proposed pipeline would originate from Kazakhstan's Uzen oilfield, where China paid \$1.3 billion for a 60 percent share. It is proposed to run through Turkmenistan to Iran's oil discharging port facilities in the Persian Gulf for export to both China and Europe. *Ibid.*

oil fields and China's oil refineries.¹⁸¹

Chinese oil engineering companies have gained market share from Western companies to supply Iran with oil industry equipment and services. In 1995, the National Iranian Oil Company (NIOC) moved the majority of its overseas oil-related purchasing effort from London to Beijing, where 40 percent of Iran's foreign purchases of oil equipment now originate.¹⁸² Tehran also recently lifted of restrictions on foreign oil companies to develop Iran's onshore and offshore oil fields. This provides China with opportunities to jointly develop Iran's oil resources, construct refineries and pipelines, and import oil and gas.¹⁸³

Iran represents a strategic transportation network in the region linking the Middle East, Central Asia, Europe, Russia, and Asia. Iran's ports, railways, and roads also connect the Persian Gulf to the Mediterranean, Caspian Sea, Black Sea, and Indian Ocean. China's MSI is establishing bilateral ties with the Islamic Republic of Iran Shipping Lines (IRISL), one of the largest MMFs in the region.¹⁸⁴ IRISL has bilateral shipping relationships with Egypt, Kuwait, India, and Sri Lanka. The IRISL MMF operates between Iran and Australia, Canada, China, East Africa, Europe, India, Japan, South Africa, and South America.

Sino-Iranian MSI is increasing due to Iran's desire to become more self sufficient in

¹⁸¹This agreement was between CNPC and the National Iranian Oil Company. Ibid.

¹⁸²Though China's oil industry equipment and engineering expertise is substandard by industry standards, China has licenses to Western oil technology which it may have transferred to Iran. Vahe Petrossian, "Iran Shops Around to Beat Sanctions," *MEED*, 18 July 1997, 15-16.

¹⁸³A partial list of NIOC's foreign concession offers of oil and gas resources includes: Darkhovin, Shanul, Kuh-e-Mand, Shour, Mehr, Nierkabir, Hengam A, B, F and D, North Pars, South Pars, Fars Province, Kopeh-Dagh, Esfandiar G, F, and A, B, and C near Abu Musa. "Iran: Oil and Gas Projects Opened Up to Foreign Investors," *MEED*, 27 March 1998, 21.

¹⁸⁴In 1996 IRISL had 75 ships with a total cargo capacity of 2,218,000 DWT. Two of IRISL's subsidiaries, the Caspian Sea Shipping and the National Iranian Oil-Shipping Companies also operate in the region. *Tehran Times*, "Iran to Become More Active in International Transport," 1 September 1996. Online. Available HTTP:<http://www.netiran.com/search.html>, 24 April 1998.

shipping its own exports and imports. Iran also wants to earn profits from carrying the trade of foreign nations. Iran imports Chinese-manufactured industrial equipment and technology. China MSI expansion strategy probably includes expanding its access to Iran's 15 major and minor shipping ports to increase SFT within and without the region. The primary maritime shipping ports in the Persian Gulf are depicted in Figure 8.

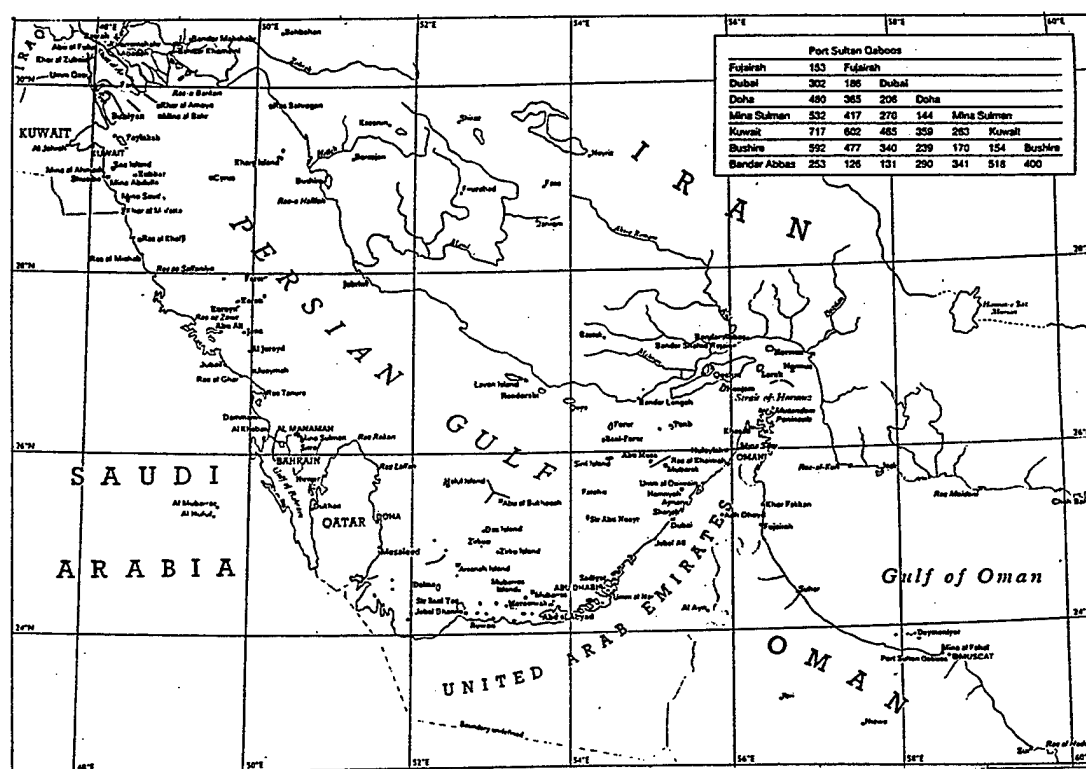


Figure 8. Maritime Shipping Ports in the Persian Gulf¹⁸⁵

In 1994, Iran began a massive expansion program of its MMF by ordering 41 new cargo ships to replace older ships in its inventory by 1998.¹⁸⁶ In 1995, Iran reportedly ordered four Panamax-size cargo ships, each with a cargo capacity of 22,600 DWT, and six

¹⁸⁵Lloyd's, 37.

¹⁸⁶Tehran Times, "41 New Ships to Joint IRSC In 2nd Plan," 8 March 1994. Online. Available HTTP:<http://www.netiran.com>

smaller multi-purpose cargo ships from China.¹⁸⁷ In 1996, two of these ships were delivered to the Iranian port of Bandar Abbas. These ships, increasing Iran's MMF cargo capacity by 90,000 DWT, were reportedly built in China under the "supervision of Iranian engineers."¹⁸⁸

Levels of Sino-Iranian MSI cooperation are facilitated by the annual Iran-China Joint Economic and Commercial Commission meetings held at each other's capitols during alternate years. This commission has three committees focused on commerce and oil, economy and industry, and science and technology. This commission provides China the opportunity to invest in Iran's oil, gas, chemical, minerals, and metals production.

In conclusion, SFT and Chinese energy investment in the region increase China's economic dependence on maritime shipping in the Mediterranean, Red Sea, Persian Gulf, and Indian Ocean. China's oil imports from the region are carried by oil tankers either originating from ports on the Black Sea via the Mediterranean and Suez Canal routes or Iran via the Persian Gulf and Indian Ocean routes. Regarding China's future oil import demand from the region, the Office of Naval Intelligence states:

China will replace Japan as the region's number one oil importer. Oil exports from the Arabian [Persian] Gulf are almost certainly going to be called upon to supply much of China's growing demand for petroleum as the country's high economic and energy consumption growth rates exceed the relatively slower increases in domestic petroleum production.¹⁸⁹

¹⁸⁷*Tehran Times*, "Iranian Vice-President Arrives in Beijing for Joint Commission," 25 May 1995. Online. Available HTTP:<http://www.netiran.com>

¹⁸⁸*Voice of the Islamic Republic* (Tehran), "Chinese-made 22,600-ton Multi-purpose Ship Joins Fleet," FBIS, 30 August 1996. The ships *Iran Mobin* and *Iran Makin* were built in Shanghai and the *Iran Matin* and *Iran Yamin* were built in Guanzhou. "Iran Mobin Lingers at Bandar Abbass," *Tehran Times*, 29 August 1996. Online. Available HTTP:<http://www.netiran.com/search.html>, 24 April 1998.

¹⁸⁹Office of Naval Intelligence, August 1997, 62-63.

C. AFRICA AND THE MEDITERRANEAN

Levels of Sino-African trade are increasing due to the complimentary nature of imports and exports each can provide the other. Both sides look to each other as export markets with high potential for future growth. China's demand is high for Africa's large quantities of energy and mineral resources. Africa's demand is high for China's manufactured goods, technology, and capital investment.

The nature of China's foreign policy strategy towards Africa emphasizes bilateral economic cooperation without political preconditions. During his two-week visit to six African nations in 1996, President Jiang Zemin announced China's intention to open six investment and trade offices in Africa and commit foreign aid in the region. His comments during the visit exemplifies China's foreign policy when he stated:

China will firmly support the economic development in Africa and provide government aid, as much as possible, without any additional political conditions. China will increase its imports from Africa to promote a balanced and quick development of Sino-Africa trade.¹⁹⁰ China, the biggest developing country in the world, is ready to join hands with Africa, the world's biggest developing continent, in sharing wealth and marching into the 21st century.¹⁹¹

As part of its foreign policy in the region to increase levels of bilateral economic cooperation, China emphasizes its status as a "fellow developing nation." China also offers economic management assistance based on publicizing the success of its own economy as a model to be emulated. This strategy is exemplified by one Chinese journalist who stressed

¹⁹⁰President Jiang Zemin in his *Address to the Organization of African Unity* in Addis Ababa, Ethiopia on 13 May 1996, cited in Zhao Quanfu, "Sino-African Friendship in Constant Progress," *Beijing Review*, 23 February-1 March 1998, 10.

¹⁹¹PRC Embassy (Washington D.C.), "Five-Point Proposal on Development of Sino-African Friendship," Online. Available HTTP:<http://www.china-embassy.org/Cgi-Bin/Press.pl?406>, 17 April 1998.

the potential for future increases in Sino-African economic cooperation:

China recognizes that African countries that depend on material exports are restricted by an "unreasonable international economic order." The combination of Chinese human resources and African natural resources, along with the support of funds, can yield productive forces that promote the economic development of China and Africa. China wants African economic development to follow the Chinese trend of establishing a socialist market system with enterprise at the core of economic activities.¹⁹²

In 1996, the value of Sino-African trade was \$4.03 billion, an increase of 2.7 percent over 1995.¹⁹³ In 1997, although Africa comprised just under 2 percent of China's total foreign trade by region, China's exports to Africa increased by 25 percent.¹⁹⁴ In 1997, Premier Li Peng, along with several senior Chinese diplomats, visited seven African countries and signed more than 20 documents on economic cooperation.¹⁹⁵ In 1998, Vice Premier and foreign minister Qian Qichen visited Morocco, Algeria, Malta, and Italy.

1. Overview of China's Regional Resource Dependencies

Beijing has targeted Sudan, Algeria, Angola, and Nigeria as sources of oil imports and South Africa, Congo, Zambia, and Zimbabwe for strategic minerals. South Africa has large reserves of chromium, diamonds, gold, manganese, and platinum while Congo, Zambia, and Zimbabwe have large reserves of copper and cobalt.¹⁹⁶ In 1997, China signed \$1.73 billion worth of new resource and infrastructure contracts in Africa; an increase of 14.9

¹⁹²Quanfu, 10.

¹⁹³In 1996, Africa comprised 1.3 percent of China's total foreign trade. *PRC Embassy* (Washington), "China Enhances Economic Ties With Africa," 16 February 1997. Online. Available HTTP:<http://www.china-embassy.org/net/cgi-Bin/Press.p1?289>, 10 June 1997.

¹⁹⁴Ning, 11.

¹⁹⁵*Ibid.*

¹⁹⁶These three nations, landlocked in the African interior, rely primarily on South Africa's ports to export of their minerals via commercial shipping to China. Butts, 17. "Congo" refers to the "Democratic Republic of Congo" (formerly Zaire).

percent over 1996 and comprising 15 percent China's total value of foreign contracts.¹⁹⁷

Sudan is a major future source of African oil imports for China. China is increasing its exports of manufactured technical equipment and providing capital investment to Sudan. Over the past three years Sino-Sudanese trade has increased by an average annual rate of 10 percent with bilateral trade in 1997 totaling \$124 million, an increase of 20 percent over 1996 bilateral trade totaling \$100 million.

China's direct foreign investment for developing Sudan's oil industry influences the Sudanese government to give China preferential economic incentives to attract further Chinese investment.¹⁹⁸ In 1996, China's CNPC signed a \$1 billion agreement with Sudan for oil pipeline construction and a 40 percent share in Sudan's Heglig oilfield.¹⁹⁹ This agreement establishes CNPC as a major foreign partner in the Sudan Project Consortium (SPC).²⁰⁰ The SPC is constructing new oil production facilities at Sudan's Mughlad Basin oilfield and a 1,400-1,600 KM pipeline from the oilfield to a new oil export terminal at Port Sudan.²⁰¹

Future increases in Sino-Sudanese economic interdependence will increase due to support from Sudan's President Bashir. A Sudanese press report, describing a 1998 meeting between Sudan's president and China's assistant foreign minister in Khartoum, stated:

All relevant [Sudanese] authorities had been directed to support the Chinese investment in the country. The Chinese minister affirmed that the Chinese support to Sudan in international forums and economic fields, in the common

¹⁹⁷Wei.

¹⁹⁸According to Sudanese Finance Minister Irahim, "Chinese investments would be given more privileges and exemptions within agreements." *SUNA* (Khartoum), "Sudanese Minister on Growing Trade With China," FBIS, 24 February 1998.

¹⁹⁹Saywell and Rashid, 47.

²⁰⁰CNPC is also subcontracting portions of SPC's pipeline and oil terminal project to other Chinese oil engineering firms. "Chinese Tipped For Pipeline Work," *MEED*, 2 January 1998, 25.

²⁰¹"Special Report: Oil and Gas," *MEED*, 31 October 1997, 36.

interest, would continue.²⁰²

In 1997, China imported 3.67 MT of oil from Angola; accounting for 11 percent of Angola's total exports.²⁰³ In 1998, both nations signed a letter of intent for China to increase Angolan oil imports and construct a oil refinery in Lobito City.²⁰⁴ Future oil extraction and production cooperation between CNPC and Angola's National Angolan Fuel Company (Sonangol) will result in more oil exports to China.²⁰⁵

2. Case Study: Italy

China appears to be expanding its MSI's presence in the Italian port of Naples for two strategic maritime economic purposes. One is to exert China's influence on Italy through bilateral MSI cooperation to gain additional access to foreign oil imports. China expects to use this influence to capitalize on Italy's extensive commercial relationships with foreign oil and gas producers in Northern Africa and the Middle East.

Another purpose is to capture market share of handling foreign trade between ports within and without the Mediterranean region. These ports include those located in the Atlantic Ocean, Mediterranean Sea, Adriatic Sea, Black Sea, Persian Gulf, and Indian Ocean are depicted in Figure 9.

²⁰²*Omdurman Republic of Sudan Radio Network* (Khartoum), "Sudanese President, PRC Minister Discuss Cooperation," FBIS, 26 February 1998.

²⁰³*Xinhua* (Beijing), "Oil Official on Prospects for Sino-Angolan Cooperation," FBIS, 18 February 1998.

²⁰⁴The proposed refinery would be co-located with a recently discovered oilfield in central Angola with an estimated annual production capacity of one million barrels. Ibid.

²⁰⁵Angolan Press Agency (Luanda), "Official Notes PRC's Willingness to Import More Oil," FBIS, 16 February 1998.



Figure 9. Ports in Northern Africa, Southern Europe, and the Middle East²⁰⁶

In Northern Africa, Italian oil companies have oil and gas production agreements with Algeria, Egypt, Libya, Nigeria, and Tunisia, while in the Middle East they include Iran, Iraq, and Saudi Arabia.²⁰⁷ In 1997, China's CNPC and Italy's Agip Corporation signed agreements to jointly develop the oilfields of foreign nations in Northern Africa. China's oil industry may soon target other Italian oil companies, having oil access relationships in Africa, for joint oil production. One such firm is Italy's Enel Corporation which has an agreement with Algeria's In Salah Gas to receive 4 billion cubic meters of gas annually from the District 3 oilfield in Central Algeria.²⁰⁸ The route that this gas and other oil would be

²⁰⁶Lloyd's, 9.

²⁰⁷Toby Ash, "Appetite For Things Italian On The Rise," *MEED*, 4 July 1997, 36.

²⁰⁸Charlotte Blum, "Gas Deals Signed for In Salah," *MEED*, 18 July 1997, 14.

transported from Algeria to Italy is depicted in Figure 10.

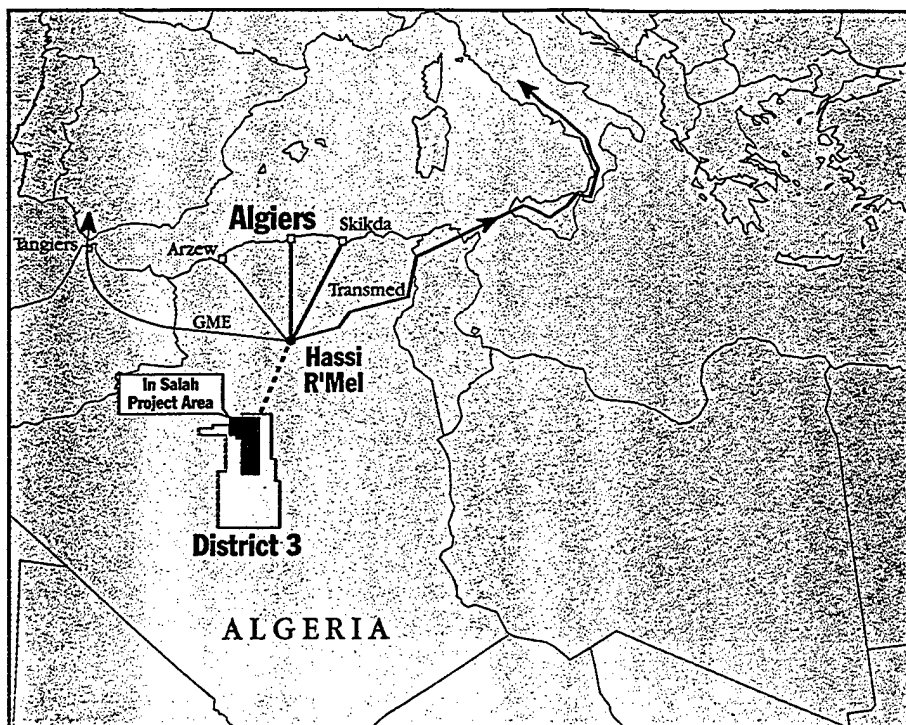


Figure 10. Oil and Gas Flows From Algeria to Italy²⁰⁹

In August 1997, a Sino-Italian shipping service and port access agreement established for COSCO a significant base of operations in Naples to expand its Mediterranean services.²¹⁰ As a result, COSCO will depend on Naples as its “Mediterranean Hub” for both the direct and indirect transshipment of maritime cargo within and without the region. COSCO’s new presence in Naples was facilitated by Italy’s recently revised port legislation and shipping privatization reforms allowing foreign investment into Italy’s MSI. COSCO also gained optimal shipping services and terminal arrangement in Naples in exchange for shifting its previous Mediterranean transshipment hub from Cyprus to Italy.

²⁰⁹Ibid., 15.

²¹⁰Xinhua (Beijing), “PRC Minister Visits Naples, COSCO’s Future Base in Med,” FBIS, 29 August 1997.

COSCO's strategy for a maritime shipping network in the Mediterranean will use Naples as a base linking it to the second most important port in the region, the Israeli port of Haifa. Italy benefits because China's MMF can transport Italian exports to Israel, Saudi Arabia, UAE, Egypt, Iran, Tunisia, and Algeria.²¹¹ COSCO also cooperates with Japan's K-Line, Taiwan's Yang Ming, and to a limited extent with Israel's Zim Container Line, in the Mediterranean and Northern Europe. In early 1998, Hong Kong-based OOCL, along with its Grand Alliance partners, initiated joint services on the Asia-Mediterranean trades.

In 1997, COSCO also initiated transshipment services linking Haifa with the Turkish port of Mersin. These services form a shipping network connecting Asia-Europe trade with Asia-U.S. trade. The current level of COSCO's Haifa-Mersin service is low. However, it has potential for COSCO to gain market share beyond Turkey into the Black Sea r. COSCO is expected to expand its presence from Italy to Israel, where Tel Aviv has committed over \$1 billion to improving the infrastructure of the ports of Haifa and Ashdod.²¹²

COSCO's future level operations in the Mediterranean can be expected to increase as a result of China's influence on Naples to expand its port terminals and dredge its harbor to a deeper depth.²¹³ In January 1998, COSCO extended its bid for a majority share in one of Italy's largest shipping companies, Lloyd Triestino.²¹⁴ If it wins this bid, COSCO will be able to handle more cargo between Central European ports via the Adriatic Sea. China's CSC has indicated its intentions to increase its market share of handling oil for foreign

²¹¹Ash, 27.

²¹²Debra Rubin, Stephen Daniels, and David Rosenbaum, "There's a Project in Every Port," *Engineering News-Record*, 10 November 1997, 25.

²¹³Angelo Scorza, "Competition Close to Home," *Cargo Systems*, February 1998, 50-51.

²¹⁴"Italian Container Lines For Sale," *Cargo Systems*, February 1998, 22.

nations in Europe and the Mediterranean.²¹⁵ CSC can be expected to utilize Naples, alongside COSCO, as its primary a transshipment hub port in the region.

As a result, China's direct investment in and Sino-foreign joint production of oil and gas in Africa will cause China's oil import dependencies in Northern Africa to increase. China will increase the level of dependence on foreign shipping companies for contracting their oil tankers and China's MMF to import African oil and gas from the region. Therefore, there will be increasing volumes of maritime shipping carrying oil and gas destined for China in the Mediterranean Sea, Red Sea, and Indian Ocean.

D. FUTURE OPPORTUNITIES: LATIN AMERICA

Since 1996, China's diplomatic strategy in Latin America has been successful at increasing levels of bilateral economic cooperation. In 1996, the value of Sino-Latin American bilateral trade exceeded \$6 billion, an increase of 12.6 percent over 1995.²¹⁶ In 1996, China's strategy to expand bilateral trade with the region is summarized by Chinese Vice-Premier and Foreign Minister Qian Qichen:

China and Latin America, with their complementary economies, should strengthen their economic trade and technological cooperation. China and Latin American countries are all developing nations, and have the same development plans and good bases of cooperation. Although geographically far apart, exchanges of high-level visits between China and Latin American have been frequent.²¹⁷

In 1997, China's President Jiang Zemin and a large delegation of Chinese government trade officials visited Argentina, Brazil, Chile, Colombia, Cuba, Mexico, and

²¹⁵"COSCO Will Retain top Place in Cross-Trade Bulk Sector," *Lloyd's List*, 6 October 1998, 2.

²¹⁶PRC Embassy (Washington), "Potential Relations Between China and Latin America," 16 February 1997. Online. Available HTTP:<http://www.china-embassy.org/net/cgi-Bin/Press.p1?353>, 17 April 1998.

²¹⁷*Ibid.*

Peru. Government and business leaders from Bolivia, Uruguay, Bahamas, Antigua and Barbuda, and Cuba visited China. In 1997, China signed \$184 million worth of foreign construction projects in Latin America and double the amount reached in 1996.²¹⁸

While Latin America comprises less than two percent of China's total foreign trade volume, Beijing's economic strategy to increase bilateral trade is exemplified by one senior Chinese official who stated:

China and Latin America can become major cooperative partners in the fields of agriculture, animal husbandry, mineral products, as well as exploration of energy resources and land. Problems still exist, blocking the development of bilateral economic and trade relations. China may consider signing bilateral and multilateral free trade agreements or economic supplementary agreements with Latin American economic groups. The governmental and non-governmental bodies can play a more positive role in setting up financial, economic and trade representative offices and encourage investment in each other's countries.²¹⁹

The expansion of Sino-Latin American trade probably enhances Beijing's ability to gain political support from the region. In 1997, Colombia, Cuba, Argentina, Brazil, Ecuador, Mexico, Uruguay, and the Republic of Dominica supported China's position on the UN Human Rights Committee on Human Rights and Tibet. Regarding China's political support to Latin-America, a senior Chinese official from the China Institute of Modern International Relations (CIMIR) stated that China had "supported the struggle of Latin American countries for economic and social development and against foreign intervention" and "supported Peru's acceptance as a new member of Asia-Pacific Economic Council (APEC)."²²⁰

²¹⁸Wei.

²¹⁹Xinsheng, 10-12.

²²⁰This official is the Director of the Latin American Section at CIMIR. Zhang Xinsheng, "Sino-Latin American Cooperation Faces Wide Vista," *Beijing Review*, 23 February-1 March 1998, 10.

SFT in the region involves production and trade in oil, minerals, industrial goods, agriculture, and animal products. China's resource import dependencies in the region are primarily with Venezuela, Mexico, and Peru.²²¹ In 1997, China and Venezuela signed a 20-year contract whereby CNPC invested \$240 million to operate an existing oilfield and \$358 million in two other oil fields for joint exploration and development with Venezuela.²²² This agreement was subsequent to a previous oil cooperation agreement reached during Chinese President Li Peng's visit to Caracas in 1996.²²³

In February 1998, China received 60,000 tons of oil that was carried by a ship from Peru. The significance of this shipment was that it was the first from a Chinese-owned oil field in a foreign country.²²⁴ The oil came from Peru's Talara Block oilfield where China bought concessions in 1993. In the future, China can be expected to rely on Venezuela as long-term source of oil imports from Latin America since that nation's oil reserves are estimated at 10.15 billion tons.²²⁵ China can also be expected to increase its oil and manganese imports from Mexico and iron ore imports from Argentina, Peru, and Brazil.²²⁶

In 1996, China and Panama established bilateral trade offices in each other's capital cities. In February 1997, China and Panama signed a 25-year MSI cooperation agreement whereby the Hong Kong-based HPH and COSCO will operate portions of ports on both ends

²²¹China can be expected to increase its imports of copper from Chile; iron ore from Brazil; tin from Brazil, Bolivia, and Peru; manganese from Brazil; and silver from Mexico, Peru, and Chile.

²²²The two oilfields, Caracoles block and Intercampo Norte, though considered by industry standards as marginal, have estimated reserves of 100 MT. "CNPC's Recent Gas Deals," *Fairplay*, 29 January 1998, 28.

²²³CNPC outbid over 90 other competing oil companies. *Xinhua* (Beijing), "Oil Corporation Wins Bid for Exploration in Venezuela," FBIS, 15 October 1997.

²²⁴Ahmed Rashid and Trish Saywell, "Beijing Gusher," *FEER*, 26 February 1998, 46-48.

²²⁵Ibid.

²²⁶In 1992, China purchased its first iron mine in Peru. Drewry, 28.

of the Panama Canal.²²⁷ The two ports, Cristobal on the Atlantic and Balboa on the Pacific side, are depicted in Figure 11.

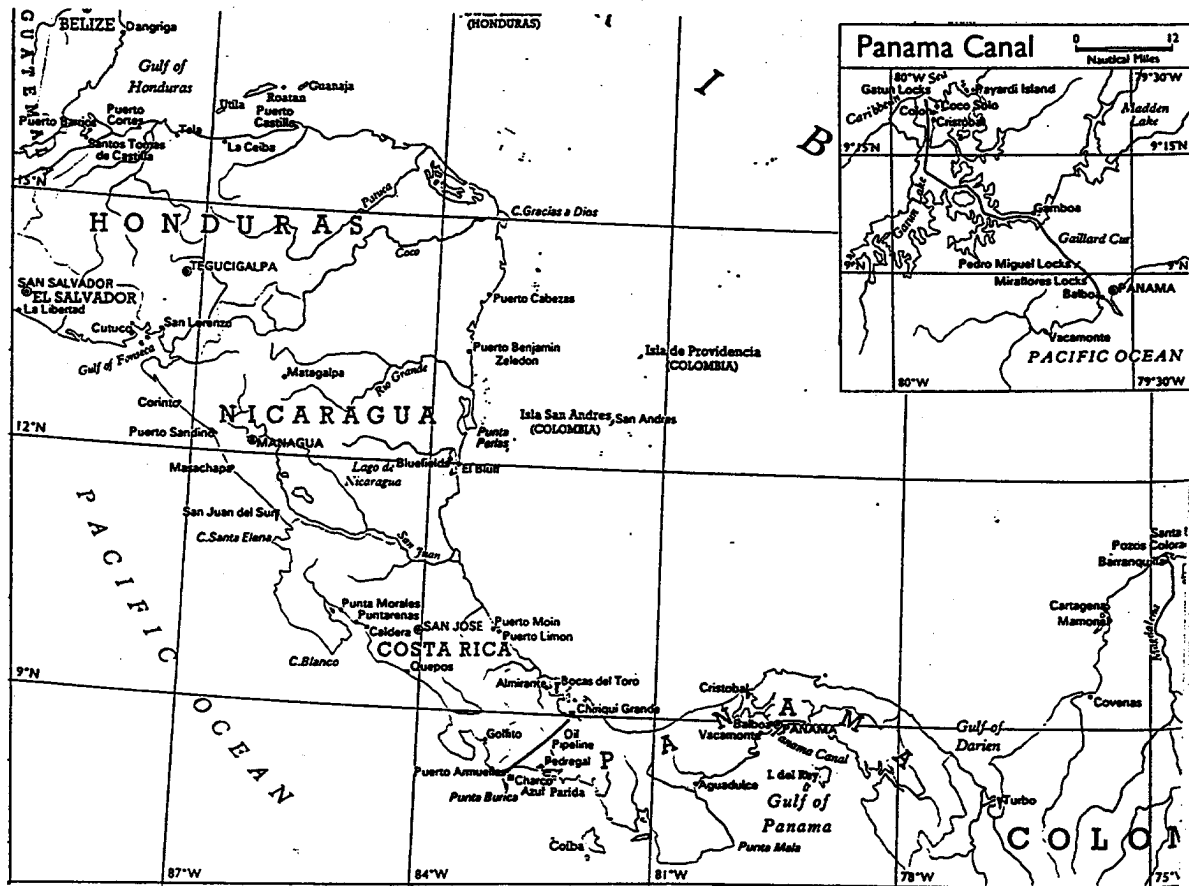


Figure 11. The Panama Canal²²⁸

As a result, these ports are expected to receive significant increases in COSCO's handling of container traffic between Asia, North America, and Latin America. The international port and shipping relationships of HPH and COSCO will be used to increase Chinese trade between Asia and Latin America through linkages with the Panama Canal.

²²⁷Lorraine Woellert, "U.S. Upset at Deal Ceding Panama Ports to China," *The Washington Times*, 19 March 1997.

²²⁸*Lloyd's*, 60.

China will also receive foreign exchange through the income earned by HPH and COSCO as a result of charging foreign shipping companies for the use of these terminals.

While China is the third largest user of the Panama Canal behind the U.S. and Japan, Beijing aggressively outbid several international companies for Balboa and Cristobal, in part to decrease the influence of Taiwan's presence in the region.²²⁹ COSCO's increased market share in handling trade between Asia, Latin America, and North America has contributed to a decrease in Taiwan's shipping volume through the Panama Canal from 8 percent in 1991 to 4.8 percent in 1996.²³⁰

²²⁹Measured by total tonnage, China is the fifth largest, while Taiwan is the ninth largest maritime shipping nation using the Panama Canal, cited in Larry Rohter, "Heavy Hand of Beijing Dampens a Panama Canal Fest," *New York Times*, 8 September 1997, A3.

²³⁰*Ibid.*

VI. IMPACT ON CHINA'S MARITIME SECURITY POLICY

What merits our special attention is the increase in the world's population and the ongoing trend of tighter supplies of natural resources.

PLA Major General Zheng Qinsheng, *Military Conflicts in the New Era*, 1996

We also need to act according to the rights and interests granted by the treaty as to sea space beyond national jurisdiction such as the high seas, moving our naval might beyond our borders, to defend our interests beyond our national territory.

PLAN Senior Colonel Liu Zhenhuan,
Impact of UN Law of the Sea on China's Maritime Rights and Interests, 1996

China's economic dependence on shipping and trade influences Beijing's perceptions of the nation's potential vulnerabilities. Some Chinese political and military leaders argue that protection of China's maritime economic interests should be emphasized more in China's national security policy. Statements of these leaders indicate such an emphasis would require naval protection of China's maritime dependencies beyond territorial waters.

This chapter examines the impact of China's regional MSI and SFT network dependencies on China's maritime security policy. It assesses the potential for the People's Liberation Army-Navy (PLAN) to protect China's maritime shipping network dependencies that are outside China's territorial waters. This chapter also offers an analysis of the potential for PLAN access to foreign ports based on levels of MSI and SFT relationships.

A. VULNERABILITIES OF CHINA'S MARITIME SHIPPING

Specific transnational threats to the security of China's MMF include hostile foreign navies, piracy, and terrorism. Increased reporting of these incidents influences Beijing's perceptions that China's MMF is vulnerable in international waters that are beyond the

PLAN's current operating areas and capabilities. These perceptions may motivate China to modify its maritime security doctrine and strengthen the capability of the PLAN to protect China's maritime shipping dependencies in international waters.

1. Foreign Naval Threats

Beijing probably perceives that China's MSI is vulnerable to interdiction by the expanding naval capabilities of the United States, Japan, and ASEAN. Moreover, Beijing's assessment of China's strategic maritime economic vulnerabilities must recognize that major foreign powers may choose to impose maritime economic sanctions against China. If foreign nations choose to punish China, their navies can enforce sanctions or blockades against China's MMF in international waters.

Incidents involving the "harassment" of China's MMF in international waters reveal the impotency of the PLAN and its inability to protect China's MMF as compared to the navies of other large and medium powers. In 1993, USN combatants detained, boarded, and inspected a Chinese merchant ship suspected of carrying chemicals prohibited by UN sanctions in the Persian Gulf.²³¹

In 1997 the USS *Nicholson* boarded the Chinese oiler, *Hai Gong You*, suspected of illegally exporting Iraqi oil to Bahrain.²³² As a result of these incidents and naval expansion by foreign nations, two senior Chinese naval officers commented:

So certain medium and small coastal countries are shifting their defense

²³¹Karen Gullo and John Solomon, "Chinese to Lease Historic U.S. Port," *The Washington Times*, 10 March 1997, 1.

²³²Following the boarding, the USS *Nicholson*, together with the USS *Cowpens* and USS *Cushing*, escorted the *Hai Gong You* to Bahrain. Dale Eisman, "Navy Faces Low-Tech, High Risk Adversaries," *The Virginian-Pilot*, 12 November 1997, 1.

policy priority to their coastal waters, devising strategies to defend and contend for more maritime rights and interests, even not hesitating to make brutal attacks. This has turned the oceans per se into the new high ground of international strategic competition. To seize more maritime rights and interests, all coastal countries are adjusting their maritime strategies [and] sharply developing their naval might, upgrading their naval operating equipment, intensifying their military deployments, and holding frequent naval exercises. The struggles among the pertinent countries to control these crucial sea lanes are growing ever sharper. So the rivalry over sea lanes remains a key part of the international rivalry in maritime strategy. The Asia-Pacific region will become one of the priority regions of maritime strategic competition.²³³

China perceives potential threats from ASEAN navies because of publicity surrounding their naval modernization plans. In 1996, these plans included spending \$85 billion between 1997-2007 on 17 destroyers, 70 frigates, 25 corvettes, and 45 submarines.²³⁴ Most Western security analysts conclude that threats to China's MMF from foreign navies is low, as indicated by the following statement:

It should be noted that with the possible exception of China, whose long-term plans include the creation of a blue water navy . . . no other Asian state's armed forces current modernization is bent on power projection beyond its EEZ [Exclusive Economic Zone]. None anticipates developing a sea control capability in the vast Pacific.²³⁵

China probably views with suspicion, potential threats to its maritime economic security, posed by maritime security and naval relationships between the United States and Japan. Japan's maritime security strategy allows its navy to protect maritime shipping out to 1,000 NM from Japan. China perceives naval cooperation between the U.S. and Japan

²³³Senior Colonels Yan Youqiang and Chen Rongxing, "On Maritime Strategy and the Marine Environment," *Zhongguo Junshi Kexue (China Military Science)*, FBIS, 20 May 1997, 81-92.

²³⁴"Building Peace in the Asia-Pacific in 1997," *Asian Defence Journal*, February 1997, 1.

²³⁵Sheldon W. Simon, "Alternative Visions of Security in the Asia Pacific," *Pacific Affairs*, Fall 1996, 391.

could threaten China's MMF in the event of sanctions against China.

Beijing also views with suspicion potential threats from other Asian and Western navies which conduct routine bilateral naval exercises in the Asia-Pacific region. ASEAN navies routinely conduct joint naval patrols to protect merchant shipping from piracy in the SCS and Strait of Malacca. Beijing's perceptions of threats from other Asian navies in the region is illustrated by two Chinese maritime security scholars who wrote:

Among the maritime countries on China's periphery, Japan's military expenditures are the largest, (next only to the U.S., ranking 3rd in the world.) Japan adopts the policy of attaching great importance to developing its navy. In the 1990's, the Korean Navy has concluded its first, oceangoing voyage to Europe to familiarize itself with the oceangoing route and enhance its ability to make oceangoing voyages . . . and in recent years, the Korean Navy has also repeatedly sent out fleets to participate in the "Pacific Rim" exercises aimed at enhancing its ability to fight in waters far away from Korea.²³⁶

2. Piracy and Terrorism

China's MMF is vulnerable to piracy and terrorism while transiting international SLOCs and in or near ports in developing regions. Between 1991-1993, piracy in the East China Sea (ECS) and SCS accounted for over 50 percent of piracy incidents reported worldwide.²³⁷ However, based on the number of piracy and terrorist attacks, compared to their negative impact on the overall level of SFT and maritime shipping in general, these threats have little effect on China's economy at present.

Although threats to maritime shipping near Africa's littoral regions have decreased, low levels of piracy do occur along shipping routes near Angola, Mozambique, Namibia,

²³⁶Li Jie and Song Tao, "Continued Naval Developments in Nations on China's Periphery," *Bingqi Zhishi (Ordnance Knowledge)*, FBIS, 12 May 1997, 17-20.

²³⁷Eric Ellen, "Bringing Piracy to Account," *Jane's Navy International*, April 1997, 30.

Nigeria, Sudan, Somalia. In littoral regions of Latin America, low levels of piracy occur near Brazil, Costa Rica, Ecuador, and Colombia. However, increased reporting of piracy and terrorist attacks against maritime shipping worldwide probably increases China's sensitivities to these types of threats to China's MSI dependence. Between 1992-1996, the number of reported piracy and terrorist attacks against maritime shipping have increased, as shown by Figures 12 and 13, respectively.

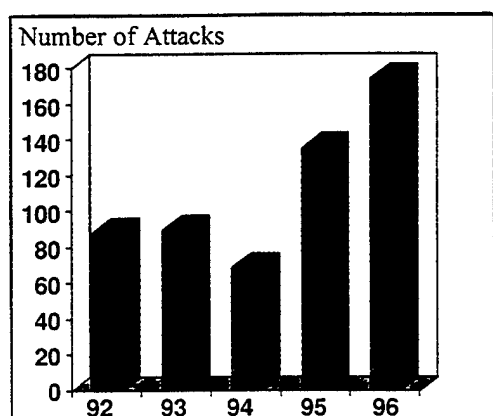


Figure 12. Worldwide Maritime Piracy Attacks, 1992-1996.²³⁸

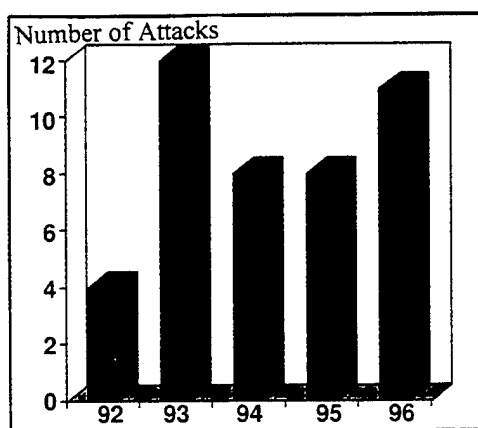


Figure 13. Worldwide Maritime Terrorist Attacks, 1992-1996.²³⁹

During Fall 1997, five foreign merchant ships, including one Chinese bulk carrier and two Singaporean-flagged oil tankers, were robbed or attacked in the SCS or Andaman Sea.²⁴⁰ The Chinese merchant ship, *Cordiality*, was seriously damaged and five Chinese crewmen were killed allegedly by Sri Lankan terrorists offshore near the port of Trincomalee, Sri Lanka.²⁴¹ Soon after this attack, representatives from China's Foreign Ministry and COSCO

²³⁸ *Worldwide Maritime Challenges 1997*, (Suitland: Office of Naval Intelligence, March 1997), 32.

²³⁹ *Ibid*, 33.

²⁴⁰ "Worldwide Threat to Shipping," *Office of Naval Intelligence*, 3 December 1997.

²⁴¹ *Xinhua* (Beijing), "Reports On Ship Attack in Sri Lanka," FBIS, 11 September 1997.

arrived in Colombo to assess the damage and care for the ship's crew.

B. EVOLVING MARITIME SECURITY POLICY

Actual and perceived threats to China's MMF dependencies are causal factors for Beijing to reevaluate the effectiveness of China's current strategic maritime security policy. Beijing's desire to protect these dependencies would result in expanding the PLAN's presence beyond China's territorial waters to protect maritime shipping interests. China regards its MMF as "sovereign" property as indicated by one Chinese officer who stated:

Sovereignty includes domestic and foreign aspects, and the two are interdependent and can not be separated. The exercise of national sovereignty is not limited to the territory National ocean rights are not limited to territorial waters. The national defense should safeguard not only the national security interest, but also especially national economic development interests, including . . . overseas investment, international trade, etc.²⁴²

China's economic dependencies on its MMF, foreign trade, and access to strategic resources are important factors that influence Beijing's maritime security policy. One Chinese scholar summarized this influence:

Beijing's security strategy after the Cold War is redefined by its domestic priorities and growing foreign economic relations China's growing economic ties with the outside world have redirected Beijing's attention to economic interests and security Economic interests have become more important in defining China's national security agenda, because the Chinese leadership now views them as the means and ends for national security.²⁴³

1. Maritime Economic Security Strategy

Due to a purposeful lack of transparency on Beijing's part, little is known outside of

²⁴²Colonel Fang Ning, "Defense Policy in the New Era," *China Military Science*, Winter 1994, cited in Pillsbury, 45-47.

²⁴³Weixing Hu, "China's Security Agenda After the Cold War," *The Pacific Review*, Vol. 8, No.1, 1995, 117-121.

Chinese military circles as to exactly what comprises Beijing's maritime security strategy and policy. Debates among Western security analysts regarding this policy have resulted in no clear consensus as to what factors influence Beijing to deploy the PLAN in international waters. Similarly, there are undoubtedly debates among China's civilian and military policy makers as to what defines China's maritime economic security strategy.

Some Western security analysts argue that China's maritime security policy and naval capabilities confine the PLAN to operations within China's "territorial" waters.²⁴⁴ One analyst infers that such a policy precludes the PLAN from protecting China's MMF in international waters:

The forward deployment of forces outside of china and "out of area" missions are not compatible with China's military experiences or culture. The arguments within the PLA for a blue-water capability have not convinced the CMC to allocate the resources to implement such a capability.²⁴⁵

Other analysts note that China's maritime security strategy offers a wide range of possibilities for extending the PLAN's presence in international waters by stating: "China's naval military doctrine has shifted from the coastal defense of the mainland to active defense of maritime economic and strategic interests"²⁴⁶ and "It [the PLAN] has now adopted the Mahanian concepts of power projection and sea control."²⁴⁷ Similarly, others highlight that China perceives the need for a maritime strategy for the PLAN that comprises a "three phase

²⁴⁴Such operations in China's "territorial" waters for the PLAN include protecting China's MSI; maintaining a sea denial capability in a Taiwan scenario against the navies of the United States, Japan, and Taiwan; and protecting China's territorial claims in the SCS. For the purposes of this section, China's claims to the disputed Spratly Islands in the SCS are considered as within China's "territorial" waters.

²⁴⁵Alfred D. Wilhelm, Jr., *China and Security in the Asian Pacific Region Through 2010*, (Alexandria: Center for Naval Analyses, March 1996), 44.

²⁴⁶Samuel S. Kim, "China as a Great Power," *Current History*, September 1997, 247.

²⁴⁷Dr. Ehsan Ahrari, "China's Naval Forces Look to Extend Their Blue-Water Reach," *Jane's Intelligence Review*, April 1998, 31.

strategy designed to advance the nation's maritime strength from coastal defense, to regional and perhaps global capability built around aircraft carrier battle groups by the year 2050."²⁴⁸

This section analyzes the potential of China's dependence on its domestic and foreign MSI interests, as a rationale for China to extend its naval presence unilaterally or initiate bilateral naval cooperation. Such a presence would extend to international sea lines of communication (SLOCs) beyond China's territorial waters for purposes not necessarily threatening to civilian or military shipping. This presence would also likely extend to foreign "hub ports"²⁴⁹ where China's MSI has a large presence in nations where levels of SFT are high. This rationale is illustrated by one Chinese security analyst who wrote:

A blue-water navy must respond to the needs of the national strategy and the national defense strategy. The PRC merchant marine fleet sails to over 600 ports in over 150 countries. China can only follow the world trend by moving farther and farther out to sea to conduct operations in blue water. . . inexorably China's naval defense strategy moves toward blue water, ultimately the Chinese Navy will be a blue-water navy.²⁵⁰

The basis for this argument is that PLAN deployments to protect China's maritime shipping dependencies are of primary importance to China's economic growth and stability. China's use of this rationale also removes the political and security stigmas associated with

²⁴⁸Dr. Bernard D. Cole, "The Persistence of Conventional Military Power in a Maritime Theater: The Asia Pacific, 1997," Speech at the 1997 *Pacific Symposium, Military Forces in the Asia-Pacific Region: Cooperation and Conflict*, 28 April 1997.

²⁴⁹The term "hub ports" refers to those international ports possessing robust infrastructures with capacities for loading and unloading large volumes of ships and cargo with great efficiency and large economies of scale. As a result, "hub ports" can be considered strategic in the context of maritime economics. Daniel Y. Coulter, a maritime economic security analyst with the Office of Naval Intelligence, has argued that "hub ports" are of greater strategic importance than SLOC choke points (SCP) to economies of a region due to the value of trade they can handle and that maritime shipping can divert to other ports with similar infrastructures. He further argues that the costs associated with diversions of maritime shipping in the event of SCP closures would be negligible compared to the overall value of trade between suppliers and recipients. Author's Interview with Daniel Y. Coulter, 5 May 1998.

²⁵⁰Zhang Wei, "Ultimately Moving Toward Blue Water," *Jianchuan Zhi Shi*, FBIS, 1 January 1997, 8-9.

international naval deployments based on power projection or territorial seizure. The probabilities for successful Sino-foreign naval cooperation, albeit limited in size and scope, would be enhanced through a rationale based on mutual maritime shipping security concerns.

Admiral Liu Huaqing, the senior PLAN officer between 1982-1988, was responsible for modernizing the PLAN and developing China's maritime security strategy in the 1980's. His efforts to modernize the PLAN for protecting China's maritime economic interests is reflected in his statement:

The further expansion of offshore energy resource recovery capabilities and merchant and fishing fleet activities, to let China obtain the necessary foreign currency reserves for its modernization plan, will undoubtedly increase the requirement for more warships to protect those interests.²⁵¹

In 1989, PLAN Deputy Commander Zhang Xusan publicized the evolution of the PLAN's "coastal defense" (jinhai fangu) strategy to an "offshore defense" (jinyang fangyu) strategy.²⁵² This new strategy gave the PLAN responsibility for protecting China's MMF in sea lanes extending from China's coastline to 200 NM, the boundary of China's EEZ. Subsequently in 1992, this strategy evolved into an "active offshore defense strategy" with its goal by 2000 being for the PLAN to be capable of protecting China's MMF seaward to the "First Island Chain;" extending from north of the Kuriles along Japan, through Taiwan, the Philippines, and Indonesia to the SCS. By 2020, this capability would extend to the "Second Island Chain;" which extends to Guam, the Marianas, and the Carolines.²⁵³

²⁵¹Cited in LCDR Bradley Hahn, USNR (ret.), "Hai Fang," *U.S. Naval Institute Proceedings*, March 1986, 120.

²⁵²Chong-Pin Lin, "Red Fist, China's Army in Transition," *International Defense Review*, 1 February 1995, 34.

²⁵³John Downing, "China's Evolving Maritime Strategy," *Jane's Intelligence Review*, 1 March 1996, 130.

Between 2020-2050, this strategy would involve the PLAN operating in a "blue water" (yuanyang haijun) environment for protecting China's maritime economic interests.²⁵⁴

China would gain security influence relative to the United States in Asia if the PLAN demonstrates a capability for protecting MSI interests that China shares with other Asian nations.²⁵⁵ Currently, over 80 percent of Asia's foreign oil imports originate from the Persian Gulf.²⁵⁶ These imports are transported across the Indian Ocean, through the Strait of Malacca, SCS, and ECS to Asian nations. By 2010, this figure is estimated to reach 95 percent, or a tripling in the volume of oil imports from the Persian Gulf to Asia.²⁵⁷ As a result, the PLAN's future naval strategy and modernization efforts may be influenced by perceived requirements for protecting maritime shipping carrying oil to China and her Asian neighbors. There would probably be a corresponding increase in the need for such protection if the regional presence of the USN were to decrease.

2. Influence of "Law of the Sea" Legislation

In 1996, China ratified the United Nations' Convention on the Law of the Sea (UNCLOS III). Many Chinese naval officers and maritime security authorities interpret UNCLOS III as a rationale for modernizing the PLAN so it can protect China's MMF in international waters. Chinese security experts argue that UNCLOS III provides the PLAN with a legal rationale to expand its presence in international SLOCs:

²⁵⁴Paul H.B. Godwin, "From Continent to Periphery: PLA Doctrine, Strategy and Capabilities Towards 2000," *The China Quarterly*, June 1996, 469.

²⁵⁵China's desire to be a security guarantor in Asia is depicted in Stephen J. Blank, "Russo-Chinese Military Relations and Asian Security," *Issues and Studies*, November 1997, 85-86.

²⁵⁶Over 55 percent of the Persian Gulf's total oil exports are to Asia. *Office of Naval Intelligence*, August 1997, iii.

²⁵⁷*Ibid*, 16. See Kent E. Calder, "Fueling the Rising Sun: Asia's Energy Needs and Global Security," *Harvard International Review*, Summer 1997, 25-26.

Under international law, the Chinese Navy enjoys a variety of rights and interests such as sailing on high seas and passing through the right international straits. Our navy still falls short of protecting the nation's maritime rights and interests. From the international law perspective, we can no longer interpret maritime defense to mean only protecting territorial waters and guarding the coast or limiting our activities to waters under China's jurisdiction. Operating on the expansive seas is not the monopoly of the navies of world powers. To take advantage of the rights granted to us by the law of the sea, the Chinese Navy must gradually step up its activities on the high seas, including . . . patrolling in sensitive areas.²⁵⁸

Two Chinese maritime security experts, commenting on the impact of UNCLOS III on China's maritime security strategy, described "new missions" for the PLAN that include: "Protecting the sea lanes for Chinese shipping . . . protection of sea transport and fishing fleets . . . ship visits, rescue and disaster relief, scientific service, and combating piracy."²⁵⁹

Other Chinese maritime scholars have commented:

UNCLOS will have a crucial impact on international strategic relations and maritime practices of all countries, but it signifies establishment of a new maritime order. Whenever a local maritime crises occurs, the crucial sea lanes in or around the crises sea space will necessarily become targets of sharp rivalry by all parties to the conflict. So rivalry over sea lanes remains a key part of the international rivalry in maritime strategy. The role of the seas as natural international lanes has absolutely not declined, with their openness affecting the normal operation of the world economy. Protecting and developing maritime transportation is similarly of extreme importance in speeding up our national economic development. Military control of the seas means protecting legitimate maritime economic activities.²⁶⁰

From an international legal perspective the UNCLOS III treaty, signed by 159 nations, enhances China's strategic maritime security position compared to non-signatory

²⁵⁸PLAN Senior Colonel Liu Zhenhuan, Director at the PLAN's Naval Affairs and Academic Research Institute, Beijing, "Commenting on the UN Law of the Sea," FBIS, 15 November 1996.

²⁵⁹Li Jie and Xu Shiming, "The UN Law of the Sea Treaty and the New Naval Mission," *Hsien-Tai Chun-Shih* (Beijing: China Defense Science and Technology Information Center, February 1997), FBIS, 18 March 1997.

²⁶⁰Youqiang and Rongxing, 81-92.

nations. UNCLOS III provides the PLAN with internationally recognized legal rights of "innocent passage, right of transit passage and archipelagic sea lanes passage, high seas freedom and sovereign immunity of warships and other public vessels and aircraft."²⁶¹

3. PLAN Capabilities and Potential For Foreign Port Access

Currently, PLAN combatants do not possess the capabilities for sustaining a presence to protect China's MMF in SLOCs beyond China's territorial waters. However, from a Chinese perspective, success for the PLAN would not necessarily be measured by its ability to maintain a sustained presence. Rather, success would be measured by the PLAN's ability to maintain an occasional presence.

In this context, an occasional presence by the PLAN in international SLOCs would not guarantee deterrence from threats to China's maritime shipping. However, by using protection of China's MMF as a pretext, Beijing would be more successful in justifying to the international community a PLAN extended presence beyond China's territorial waters.

Between March-April 1997, the PLAN conducted two unprecedented international peacetime deployments of combatants for port visits in seven foreign countries. These deployments consisted of two separate groups, each comprising two combatants and one auxiliary oiler. One group conducted the first ever PLAN port visits to the U.S. mainland, Mexico, Peru, and Chile.²⁶² Another group conducted the first ever sequential port visits in Southeast Asia to Thailand, Malaysia, and the Philippines.²⁶³ During May 1998, three PLAN

²⁶¹Cited in CAPT George Galdorisi, USN, "It's Time To Sign On," *U.S. Naval Institute Proceedings*, January 1998, 51-53.

²⁶²Susan Kreifels, "Chinese Navy Ships, on Unusual Tour, Make Call at Pearl Harbor," *The Washington Post*, 10 March 1997, 9.

²⁶³Dan Wu and Daluo Jia, *China News Digest*, 30 March 1997.

ships visited Australia and New Zealand for the first time.²⁶⁴

One purpose of these “goodwill” port visits was to further Sino-foreign political and military transparency. Another purpose was to “promote friendship” with countries where China seeks to increase levels of SFT. Still another purpose was to train PLAN crews in long-range navigation and seamanship proficiency in a “blue water” environment. The PLAN would require such proficiency to protect China’s MMF in international waters.

The international deployments conducted by the PLAN during 1997-1998, may have illustrated Beijing’s desire to demonstrate the PLAN’s capabilities for extending its presence in international waters. Such an incremental extension the PLAN’s geographical presence would be consistent with the evolution of China’s maritime strategy from a “coastal defense” strategy to an expanded and more encompassing “offshore active defense” strategy.

Some PLAN combatants have the minimal necessary capabilities to sail between ports from Asia to the Middle East and Africa. The PLAN’s ability to sail long distances would be enhanced by access to foreign ports for repair, refuel, and replenishment. The PLAN’s most capable ships have ranges of between 4,000-5,000 NM. These capabilities would enable PLAN ships, deploying from the PLAN’s South Sea Fleet naval base at Zhangjiang, to reach foreign ports in the Western Pacific, Indian Ocean, and Persian Gulf.

Foreign ports located within 2,000 NM from Zhangjiang include those in the Philippines, Thailand, Malaysia, Singapore, Indonesia, and Brunei; within 2,000-3,000 NM

²⁶⁴The three PLAN ships, the Luh-class guided missile destroyer *Qingdao*, training ship *Shichang*, and replenishment ship *Nancang*, visited Auckland from 27-30 April and Sydney from 4-7 May. These ships subsequently conducted a port visit to Manila, the Philippines 18-21 May 1998. Zhang Zhao and Jiang Guocheng, “PRC Naval Fleet Ends Australia Visit,” *Xinhua* (Beijing), FBIS, 7 May 1998.

include Myanmar, Bangladesh, and Sri Lanka; and within 4,000-6,000 NM include Australia, Pakistan, Iran, Kenya, and South Africa. These nations are depicted in Figure 14. In 1997, the PLAN's round trip voyages from China to the SCS totaled 7,000 NM, while the voyages to North and South America totaled over 20,000 NM. Between April-May 1998, the three PLAN ships that visited Australia, New Zealand, and the Philippines, conducted a 48-day voyage and sailed over 12,700 NM.²⁶⁵

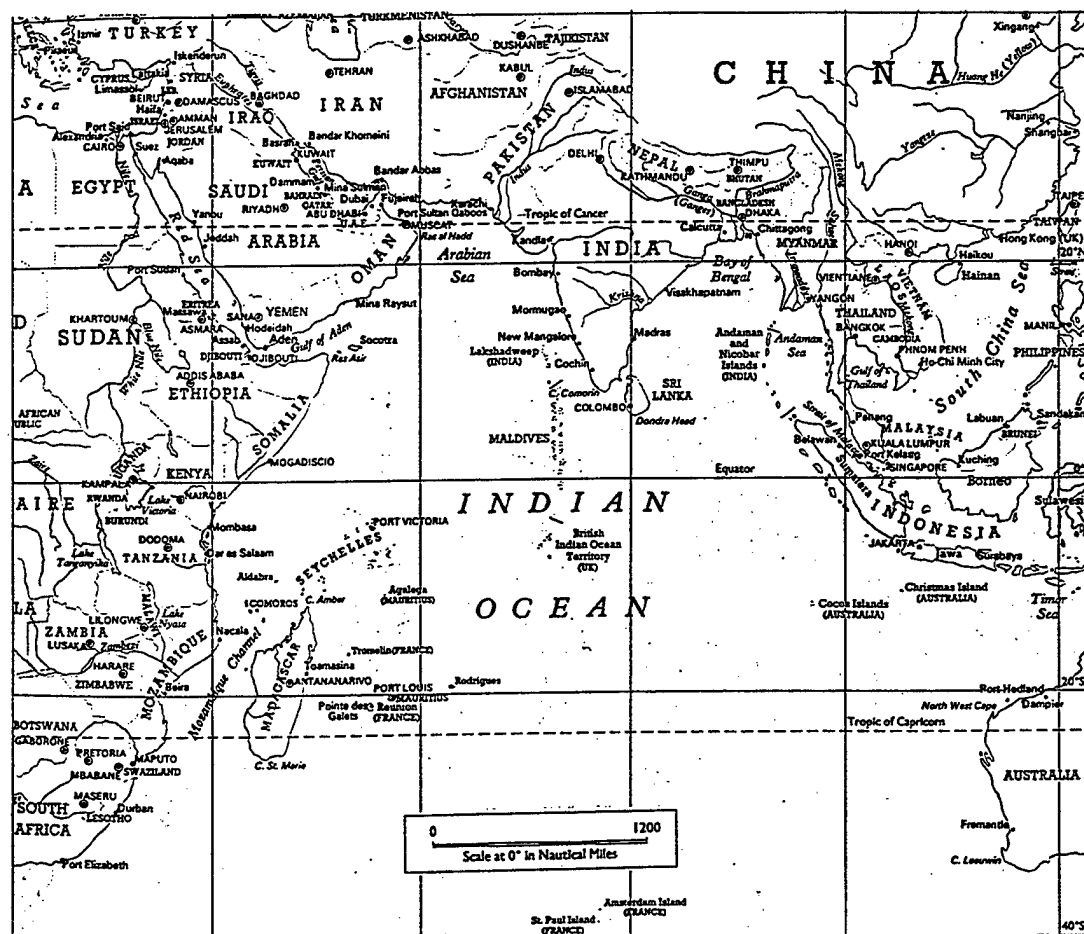


Figure 14. Africa, Asia, and Middle East Regions²⁶⁶

²⁶⁵Zhang Zhao, "Warships to Visit New Zealand, Australia, Philippines," *Xinhua* (Hong Kong), FBIS, 9 April 1998.

²⁶⁶*Lloyd's*, 11.

An extended PLAN presence could be used to initiate Sino-foreign naval cooperation for protecting mutual shipping interests. One senior PLA officer noted:

In a bilateral process, both sides can explore areas of common ground in depth, and increase a certain measure of transparency in areas such as military development, troop deployments, and military exercises, so as to enhance mutual trust and understanding. Therefore, China has taken a positive attitude toward military to military contacts and cooperation with Asia-Pacific countries. Clearly, China cannot develop its economy and safeguard its security without cooperating with other Asia-Pacific countries.²⁶⁷

In 1998, the PLAN appears to be positioning itself for future Sino-foreign naval cooperation by first "showing the flag" and visiting foreign navies in their nations' ports. In April 1998, Rear Admiral Han Fangyun, Commander of the PLAN ship group visiting Australia, New Zealand, and the Philippines and Deputy Chief of Staff of the PLAN North Sea Fleet, stated these visits would "play a positive role in improving the friendship and exchanges between the Chinese armed forces and the armed forces of the three countries in the region."²⁶⁸ During the PLAN port visit in New Zealand he stated "the visit is aimed to increase the understanding, exchanges and friendship between the militaries of China and New Zealand, and enable the militaries of the two countries to learn from each other."²⁶⁹ During the PLAN port visit in Australia he stated:

This [port visit] has added a new chapter to the friendly exchange between the Chinese Navy and the Oceanian countries, peoples, and armed forces and especially navies. The current visit has brought friendly ties between the Chinese Navy and the navies of New Zealand and Australia to a new stage of development. Through extensive exchanges, Chinese naval officers and men have gained first-hand knowledge of foreign navies' advanced equipment,

²⁶⁷PLA Senior Colonel Ding Bangquan, *China's Strategic Concepts for Asia-Pacific Security*, (Beijing: PLA National Defense University, 1994)

²⁶⁸Zhao, 9 April 1998.

²⁶⁹*Xinhua* (Beijing), "Chinese Naval Ships Start Visit to New Zealand," FBIS, 27 April 1998.

education, training, and troop management, resulting in the broadening of their vision. The visit has expanded China's influence and provided an opportunity for people to observe the Chinese Navy's image as a peace-loving, mighty, and civilized force.²⁷⁰

India is the most apprehensive nation regarding potential PLAN presence in the Indian Ocean. The PLAN has not entered the region since conducting port visits in Pakistan, Sri Lanka, and Bangladesh in 1985.²⁷¹ Indian journalists reflect New Delhi's concerns that China's oil dependencies in the Middle East will cause the PLAN to expand its presence in the region by gaining port access in Myanmar, Bangladesh, Pakistan, or Africa.²⁷² The geographic proximity of India to Bangladesh and Myanmar is depicted in Figure 15.

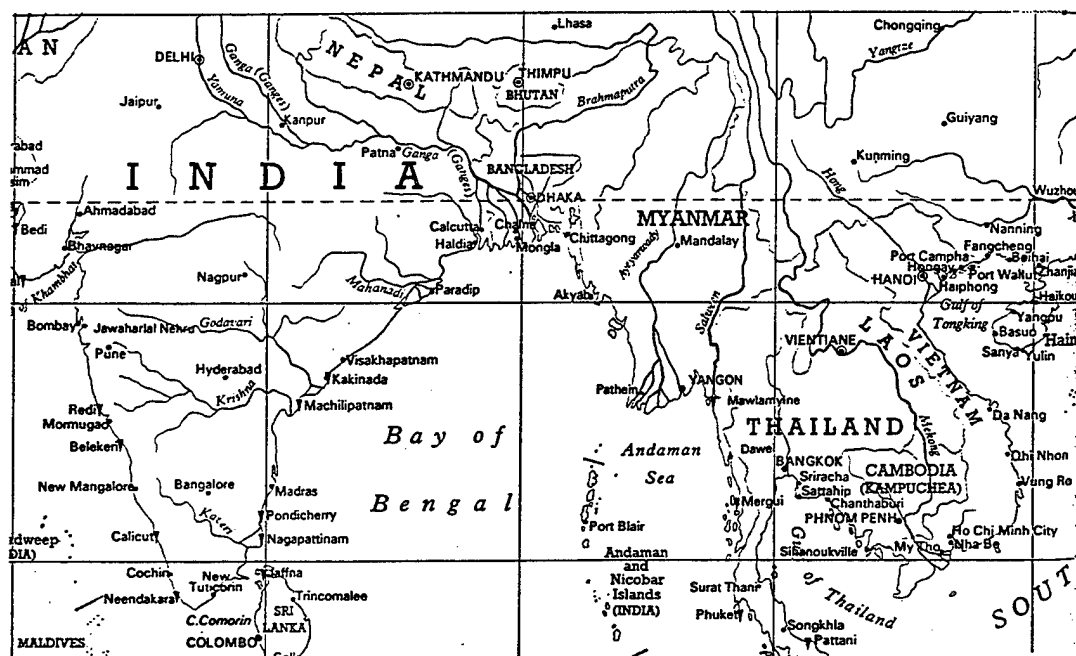


Figure 15. The Boundaries Between India, Bangladesh, and Myanmar²⁷³

²⁷⁰Zhang Zhao and Yang Mingqing, "PRC Naval Ship Commander Interviewed in Sydney," *Xinhua* (Hong Kong), FBIS, 6 May 1998.

²⁷¹Since 1985, no less than 16 PLAN ships have made port visits to 13 foreign ports. *Xinhua* (Beijing), "Navy Fleet Makes Port Calls," FBIS, 24 June 1997.

²⁷²Swaran Singh, "China's Naval Prowess," *The Pioneer* (New Delhi), FBIS, 12 August 1997, 16.

²⁷³*Lloyd's*, 38.

India probably views that China's ties to Myanmar will eventually result in the PLAN using Myanmar's naval facilities to support a PLAN presence in the Indian Ocean to protect China's MMF. One Indian security analyst commented that since 1993, over 70 Chinese naval and engineering personnel have been improving Myanmar's naval facilities at Hainggyi, Akyab, and Mergui.²⁷⁴ Unconfirmed press reporting indicates China has been assisting Myanmar in constructing a naval facility on Hainggyi Island²⁷⁵ and maritime surveillance facilities on Great Coco, Hainggyi, Monkey Point, Zadetkyi Kyun, and Ramree Islands near the Andaman Sea.²⁷⁶ The locations of these facilities are depicted in Figure 16.

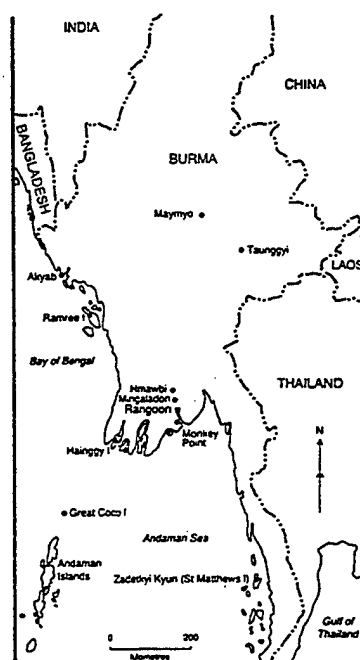


Figure 16. Maritime Surveillance Facilities in Myanmar²⁷⁷

²⁷⁴Rahul Ray-Choudhury, "Trends in Naval Power in South Asia and the Indian Ocean During the Past Year," *SAPRA India Monthly Bulletin*, January 1996. Online. Available [HTTP:www.subcontinent.com/sapra/96jan/si019603.html](http://www.subcontinent.com/sapra/96jan/si019603.html)

²⁷⁵Mohan Malik, "Burma Slides Under China's Shadow," *Jane's Intelligence Review*, July 1997, 320-322.

²⁷⁶Desmond Ball, "SIGINT Strengths Form a Vital Part of Burma's Military Muscle," *Jane's Intelligence Review*, March 1998, 35-39.

²⁷⁷Ball, 39.

India probably views that increases in China's MSI relationships with Pakistan and Iran will expand from strictly commercial to include naval cooperation. Pakistan is expanding its port of Gwadar, near the Iranian-Pakistani border, into a commercial port and naval base with an adjacent airfield.²⁷⁸ In February 1998, China reportedly offered loans to Pakistan for purchasing naval combatants for the Pakistani Navy to be built in both China and Pakistan. This offer was made during Pakistani Chief of Naval Staff Admiral Fasih Bukhari's visit to Beijing during February 1998. During that trip, he visited Chinese naval bases and discussed "increased cooperation between navies of the two nations."²⁷⁹

In conclusion, China's economic dependence on its MMF for growth and stability encourages Beijing to modify its maritime security policy to allow the PLAN to maintain an occasional presence in international SLOCs. It is the PLAN's current lack of "blue-water" experience that motivates the PLAN to embark on such missions. The current capabilities of PLAN combatants allow for only limited protection of China's MMF beyond territorial waters. As Chinese naval modernization efforts yield more capable ships, a younger generation of PLAN officers is more likely to support and execute protection of China's MMF in international SLOCs. However, the general consensus among Western analysts is that the PLAN will not have the capabilities to maintain a continuous presence in international SLOCs until between 2020-2050.²⁸⁰

²⁷⁸R. P. Khanna, Commodore (ret.), A.V.S.M., "Defence Perception and Outlook of India, Malaysia, Singapore, Indonesia, Immediate Neighbours and Australia," *Asian Defence Journal*, January 1997, 17.

²⁷⁹"China Offers Loan to Purchase Frigates," *The Nation* (Islamabad), FBIS, 9 February 1998, 1.

²⁸⁰Paul H.B. Godwin, "From Continent to Periphery: PLA Doctrine, Strategy, and Capabilities Towards 2000," *The China Quarterly*, 1996, 469.

VII. CONCLUSIONS AND IMPLICATIONS

In the future, the United States will have to deal more effectively with China's changing status in Asia and the world, especially with the military dimension.

Former U.S. Ambassador to China, James Lilley

The build-up of China's defense is not directed at any country and will not be a threat to any country. Any military buildup would be within the larger context of China's goal of economic development.

China's Defense Minister, General Chi Haotian,
Speech before the Japanese Defense Research Institute in Tokyo, 1998

A primary role of naval power in the 21st century will be to help guarantee economic stability as international trade, commerce, and the "resources of the sea" continue to grow...the world's navies must be at the forefront in guaranteeing the free flow of goods and materials.

Chief of Naval Operations, Admiral Johnson,
Address to the 1997 International Seapower Symposium

China's economic expansion strategy depends on regional networks linking SFT with China's MSI to earn profits and import vital strategic resources. These networks are expanding due to China's foreign policy, overseas investment, Sino-foreign shipping and port development cooperation, and market share in international shipping. These networks enhance Beijing's ability to further China's strategic economic, political, and security interests. Beijing's perceptions of threats to these networks increases the potential for the Chinese Navy to protect China's MMF in international waters.

A. ECONOMIC IMPLICATIONS

1. Impact on the International Maritime Shipping Industry

China's MSI is positioning itself to gain further market share of maritime shipping and handling energy, industrial, and food commodities between Asia, Africa, Europe, the

Middle East, and Latin America. The advantages of large numbers of smaller-sized ships make China's MMF well suited for handling the foreign trade of developing nations in littoral areas. China appears willing to commit its MMF to less profitable container shipping services for developing nations in order to gain long-term market share. China's MSI can also be expected to increase its market share in the Intra-Asia, Asia-North America, and Asia-Europe trades as illustrated by Figure 17.

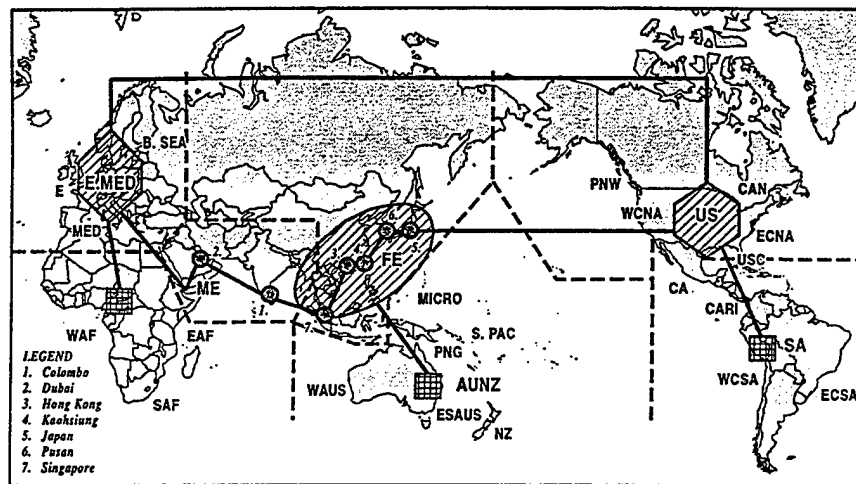


Figure 17. Major World Maritime Shipping and Trade Concentration Areas²⁸¹

COSCO's fleet of over 150 container ships and 250,000 TEU handling capacity is expected implement a major expansion plan in 2000 which could make it the largest container shipper of the world's maritime trades by 2010.²⁸² With the exception of India, China's MSI expansion strategy will increase China's MMF's presence in foreign ports in the Western Pacific, Indian Ocean, Persian Gulf and Africa that are depicted in Figure 18. COSCO's primary international shipping trades are depicted in Appendix A.

²⁸¹Ross Robinson, "Asian Hub/Feeder Nets: The Dynamics of Restructuring," *Maritime Policy & Management*, January-March 1998. 23.

²⁸²*Lloyd's List*, 6 October 1998, 2.

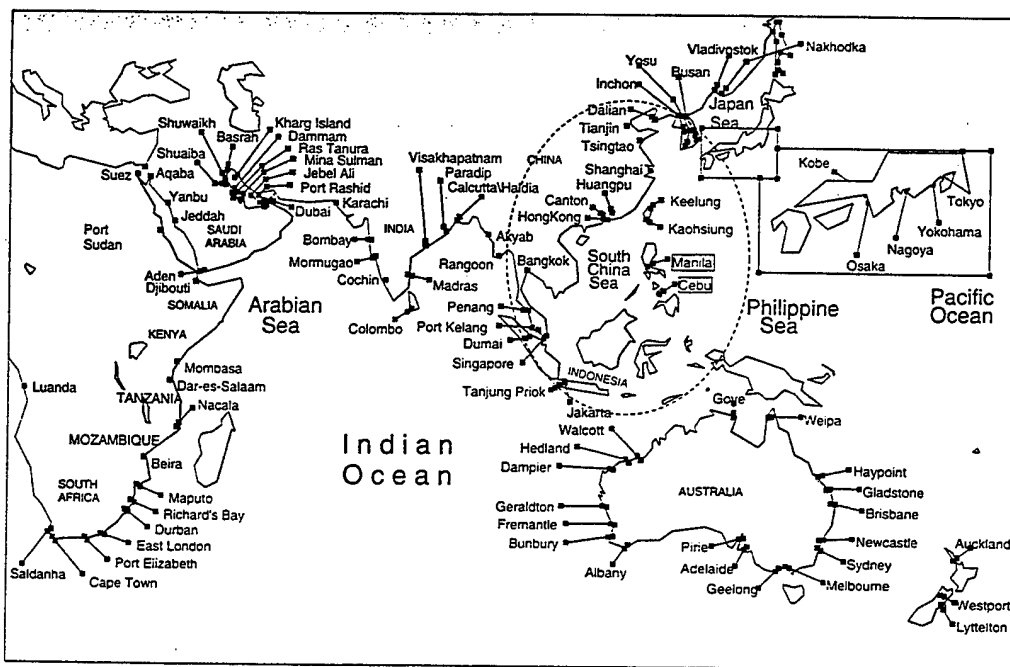


Figure 18. Ports in the Indian Ocean, Persian Gulf, and Western Pacific²⁸³

The creation of the Shanghai Shipping Exchange (SSE) will increase China's ability to determine maritime shipping schedules, sailing frequencies, port calls, shipping rates, types of service, and container prices and distribution in Asia. The SSE requires foreign shippers to file their tariff and service rates for approval prior to shipping cargo. China's MSI, exempt from doing so, is able to view these rates and lower prices to gain market share from foreign shipping companies. The SSE sets shipping rates for foreign shippers handling trade between China and Asia. In the future, rates between China and Europe may also be affected.²⁸⁴ Foreign shipping companies failing to join SSE and abide by its rules are subject to denial of services in China's ports.

²⁸³Stopford, 279.

²⁸⁴SISC's regulations do not apply to U.S.-China shipping services and rates. Philip Damas, "China Rules," *American Shipper*, February 1997, 44.

China's MMF is increasing in size and handling capacity for transporting larger volumes cargo to improve its competitiveness. As the size, capacity, and foreign port access for China's MMF expands, foreign shipping companies are motivated to encourage China's MMF to join their alliances. This would increase profits for all parties involved due to reduced operating costs, expanded services, and increased efficiency. However, China's MMF expansion will probably not meet China's import and export requirements. China will depend more on foreign MMFs to handle SFT as China's industrial production increases and China's ports open further to foreign-flagged shipping. By 2006-2016, the size of China's MMF is expected to rival that of Japan and be the largest MMF in the world.²⁸⁵

China's strategy for capturing world shipping service market share is to expand its influence and cooperation with Asian shipping companies. Asia's shipping lines comprise seven of the world's top ten shipping companies, while Western shipping companies comprise three.²⁸⁶ Asian shipping lines carry over 80 percent of containerized cargo on Asia-U.S. routes, 70 percent of Asia-Europe routes, and 90 percent of intra-Asia routes.²⁸⁷ Between 1970-2000, China's MSI expansion is creating robust shipping linkages between China and foreign ports in Asia as depicted in Figure 19. This strategy will continue to be successful if Western shipping firms continue to lose market share to Asian shipping firms.

²⁸⁵ Author's interview with Daniel Y. Coulter, Office of Naval Intelligence, 6 May 1998.

²⁸⁶ The three Western firms are Maersk, P&O Nedlloyd, and Sea-Land. S. C. Chan, "Asian Carriers Rule the Waves," *Cargonews Asia*, 17 November 1997. Online. Available [HTTP: http://www.asia1.com.sg/cgi-bin/ship/sp_dnews](http://www.asia1.com.sg/cgi-bin/ship/sp_dnews). 13 April 1998.

²⁸⁷ These include Evergreen, OOCL, COSCO, NYK, Milsui OSK Lines, NOL, Hanjin, Hyundai, Wan Hai and Uniglor. Ibid.

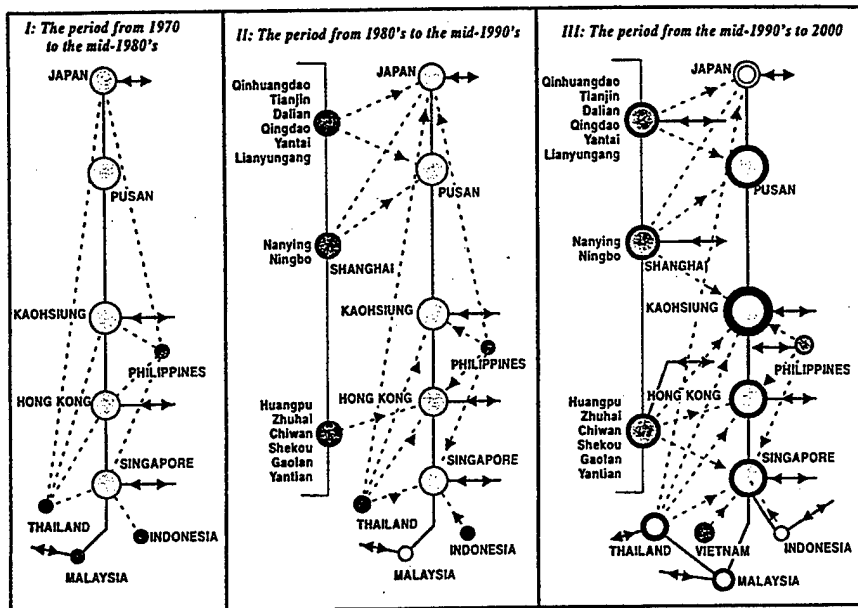


Figure 19. Development of Asia's Maritime Shipping Networks, 1970-2000²⁸⁸

At present, China's MSI specializes in building merchant ships for export that are below 100,000 DWT for developing countries. It has acquired advanced shipping design, marine engine, and shipbuilding engineering technology from Japan and South Korea. This will allow it to build larger and more capable ships for increasing its international shipbuilding market share of double-hulled crude oil tankers and LPG/LNG gas carriers. Due to China's lower labor and resource costs, foreign shipbuilding companies can be expected to continue relocating portions of their production to China to earn higher profits. This also allows China's MSI to be more competitive in shipping, shipbuilding, port management, and crew manning on foreign ships.

A significant portion of China's MMF depends on earning profits from handling maritime trade between the United States and Asia. The value to China of this trade can

²⁸⁸China's ports are illustrated on the left hand side of panels two and three. Robinson, 36.

probably be leveraged in negotiations by the U.S. Federal Maritime Commission in revising bilateral Sino-U.S. state maritime shipping policies.²⁸⁹ China's MMF currently enjoys more favorable terms in U.S. ports than does the U.S. MMF in Chinese ports.²⁹⁰ U.S. shipping companies such as Sea-Land have petitioned the FMC to rescind favorable exemptions given to China's MMF until U.S. shipping companies receive similar terms in Chinese ports.

2. Impact on Strategic Resources and Foreign Trade

The level of China's access to and control over foreign strategic resources will continue to increase. This is the result of aggressive Chinese foreign investment targeting countries possessing large reserves of oil, gas, metals, and minerals. China's access to strategic resources will also increase as China takes advantage of foreign privatization of resource industries by nations in the Middle East, Latin America, and Africa. By 2010, China's share of world energy resource consumption has been estimated to increase from its current level of 9 percent to nearly 13 percent.²⁹¹

Increases in China's ability to access strategic resources will not necessarily increase their prices. Resource prices are determined by a complex series of supply and demand factors. Estimates based on current worldwide resource supply and production indicate China's future demand has the probability of raising their prices: (1) low for energy resources; (2) moderate to high for industrial resources; and (3) low to moderate for

²⁸⁹The 1988 Sino-U.S. maritime shipping agreement expired on 15 June 1998. *Lloyd's of London*, cited in "U.S. Lines Urge FMC to Hit Back at China Flag Ships," *Cargonews Asia*, 14 April 1998, Online. Available HTTP:http://www.asia1.com.sg/cgi-bin/ship/sp_dnews. 1 May 1998.

²⁹⁰The FMC recently granted China's COSCO and Sinotrans access to U.S. ports on 24 hours notice. This represents an exception from the 30 days notification mandate for foreign carriers as stipulated in the U.S. Controlled Carrier Act. Ibid.

²⁹¹OECD, 96.

agriculture resources.

China's MSI expansion strategy increases levels of China's market share in international trade relative to other nations. By 2010, China's share of world trade is expected to increase from its current level of four percent to six percent.²⁹² Other estimates indicate that by 2015, China's share of world trade could exceed 13 percent.²⁹³ By 2020, the World Bank estimates China could become the second largest importing and exporting nation in the world.²⁹⁴ China's MSI expansion could decrease the ability of foreign MMF's to earn profits if they continue to lose market share in handling international trade.

This strategy could impact the U.S. economy which also depends on foreign trade, although the U.S. MMF is declining. This decline has resulted in less U.S. control over maritime shipping of U.S. foreign trade. This expansion could also decrease the ability of the United States to influence shipping linkages between it and the rest of the world. The U.S. economy is increasingly dependent on foreign trade as pointed out by U.S. National Security Advisor Sandy Berger who stated:

America's fifth strategic goal is to build a new, open trading system for the 21st century. Our nation's economic well-being is tied to the rest of the world. Eleven million Americans depend on exports for their jobs. We should not fear the challenge of the global economy. Our workers and businesses can compete just fine so long as the contest is open, the field competitive and rules fair and enforced.²⁹⁵

²⁹²OECD, 12.

²⁹³These same estimates indicate Japan's share of world trade would be 10.6 percent. OECD, 67.

²⁹⁴The World Bank, September 1997, 103.

²⁹⁵Sandy Berger, "A Foreign Policy Agenda for the Second Term," *Address to the Center for Strategic and International Studies*, Washington D.C., 27 March 1997.

3. China's MSI and the Asian Financial Crisis

The Asian financial crisis offers China's MSI opportunities to gain influence in those affected nations in the region. At first, the crisis resulted in a decrease in maritime shipping demand for imports and exports in Asia. However, Asian countries such as Malaysia, Thailand, and South Korea have announced economic recovery plans based on increasing their exports to foreign nations, including China.

Concurrently, many Western trade companies have refused letters of credit from Asian countries whose currencies have dropped in value compared to the U.S. Dollar. In early 1998, Maersk and Sea-Land suspended one of their major shipping route services between the United States and Asia that previously served Thailand, Japan, and Taiwan.²⁹⁶ However, the crises has caused a decrease in China's MSI profits from handling Intra-Asian trade. As a result, China is increasing its exports to Europe and the United States, where exports rose by 35 percent and 14 percent respectively during the first quarter of 1998, compared to the same period in 1997.²⁹⁷

These developments offer opportunities for China's MSI because it is willing to extend flexible shipping and trading arrangements with countries such as Indonesia in return for industrial resources and food.²⁹⁸ China's MSI also may gain long-term market share on international and regional shipping services vacated by other major shipping companies due to the current short-term profitability outlook.

²⁹⁶Paul Richardson, "Asian Crisis Forces Route Cuts," *Cargonews Asia*, 23 February 1998.

²⁹⁷Henny Sender, "Against All Odds," *FEER*, 30 April 1998, 63.

²⁹⁸"Crippling Shortages, Indonesia Looks to Bartering," *Fairplay*, 26 February 1998, 18.

B. SECURITY IMPLICATIONS

1. Expanding Security Role For China's Navy

Chinese maritime security policy makers have noted China's economic dependence on the unhindered flow of trade and maritime shipping between China and foreign nations in all regions of the world. SFT between China and Europe, the Middle East and Africa is shipped along key SLOCs in the Mediterranean Sea, Red Sea, Persian Gulf, Indian Ocean, Strait of Malacca, and the SCS. SFT between China and North and South America is shipped along SLOCs that are relatively unhindered by chokepoints. Key SLOCs in these ocean regions that are vital to China's SFT and MSI dependencies are depicted in Figure 20.

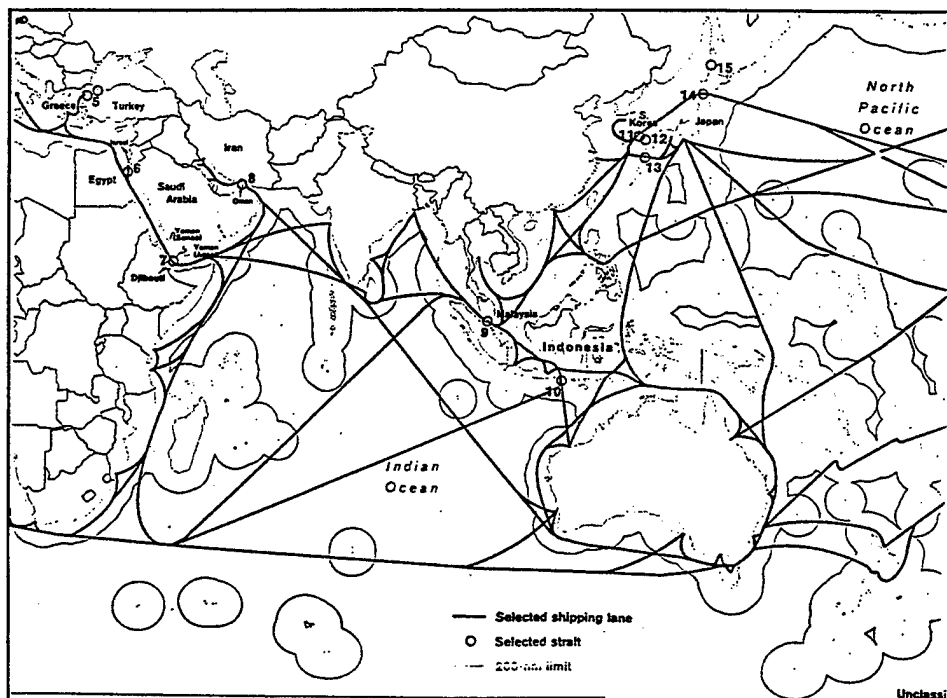


Figure 20. Key SLOCs in the Western Pacific, Indian Ocean, and SCS

Protection of China's maritime shipping interests in the Western Pacific and Southeast Asia would be enhanced through Sino-foreign naval cooperation and port access

in foreign nations of the region. During February 1998, China's Defense Minister Chi Haotian visited, for the first time, Japan, Australia, New Zealand, and Fiji.²⁹⁹ These nations are strategically located near alternate SLOCs that China and foreign MMFs would use if key SLOCs in Southeast Asia were closed. China may perceive potential instability in the region could result in an increase in piracy and terrorism against maritime shipping in the region.

While details of the bilateral discussions which took place during these visits are unknown, Minister Haotian did discuss preparations for the PLAN port visits to Australia and New Zealand which subsequently occurred between April-May 1998. Therefore, it would be in China's strategic maritime security interests to develop friendly naval ties with these nations. Figure 21 depicts key Southeast Asian SLOCs vital to China's economy while Figure 22 depicts alternate routes around Australia that shipping would divert.

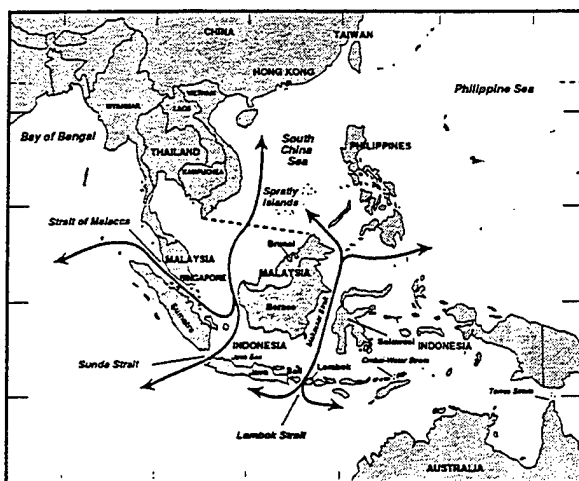


Figure 21. Southeast Asian SLOCs³⁰⁰

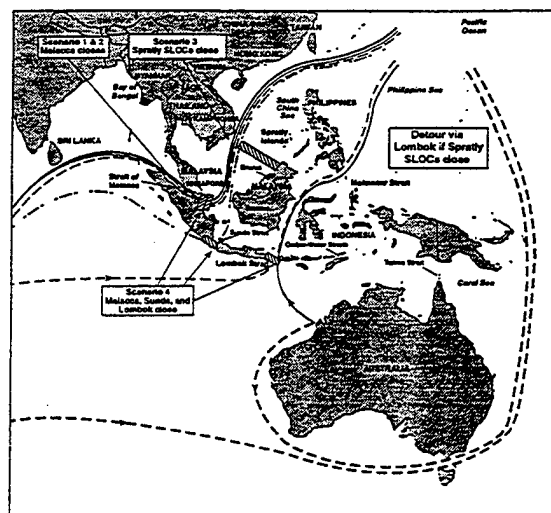


Figure 22. Alternate Shipping Routes³⁰¹

²⁹⁹Xinhua (Beijing), "Expanding Military Contacts Part of Diplomatic Strategy," FBIS, 20 February 1998.

³⁰⁰*Chokepoints: Maritime Economic Concerns in Southeast Asia*, (Washington D.C.: Institute For National Strategic Studies, National Defense University [NDU] Press, October 1996), 3.

³⁰¹Ibid, 34.

Any potential disruption to China's MSI and SFT networks along key SLOCs would have such a negative impact on China's economy that Beijing must consider these SLOCs as vulnerable in strategic economic terms. Moreover, while China's MMF is only marginally affected by threats from foreign navies, piracy, and terrorism, Beijing can cite these threats as a rationale to expand the PLAN's presence in non-territorial waters.

At present, the PLAN does not have the capabilities to sustain a presence for protecting its MMF in international waters beyond the SCS. It does have the capabilities to conduct an occasional presence in international SLOCs. under the pretext of protecting its MMF. However, the extent of future PLAN "blue-water" missions will be determined by the success of China's naval modernization efforts to improve the capabilities of its ships.

The potential for the PLAN protecting its SFT and MSI is dependent on the following six factors: (1) level of SFT and MSI cooperation; (2) perceptions of threats to China's MMF; (3) capabilities of the PLAN; (4) foreign port access; (5) Evolution of Beijing's maritime security strategy; and (6) hostile foreign political or military reactions to PLAN presence. Analysis of these factors indicate that, if Chinese naval capabilities improve and foreign port access is granted, there is a high probability that the PLAN will increase its presence in the SCS, Strait of Malacca, and Western Pacific.

This high probability is the result of China's dependence on importing bulk quantities of foreign oil and industrial resources, as depicted in Figures 23 and 24, respectively. Another factor is China's MSI's increased market share of containerized trades within and without Asia, depicted in Figure 25. The probabilities are medium in the Indian Ocean and Persian Gulf; and low in the Red Sea, Mediterranean, African Littorals, and Eastern Pacific.

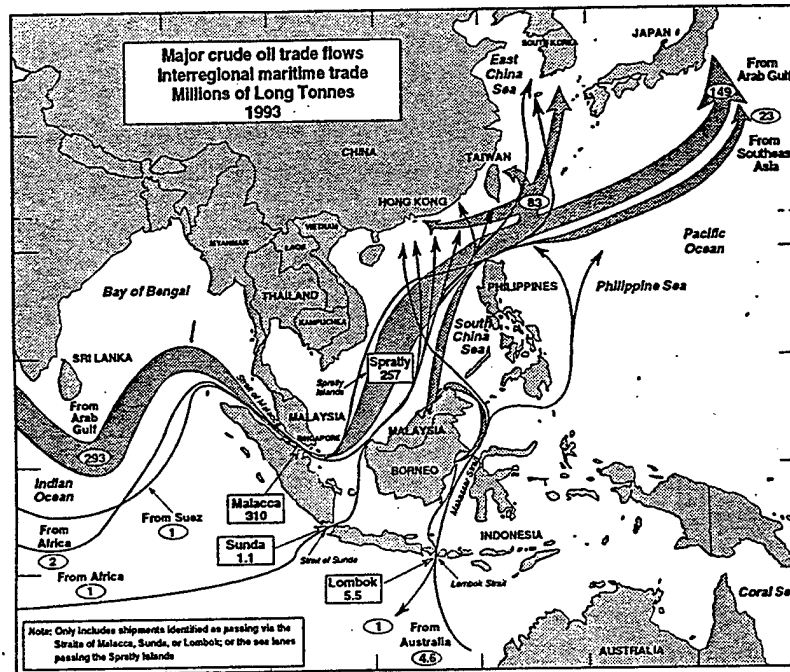


Figure 23. Major Crude Oil Flows in Asia, 1993.³⁰²

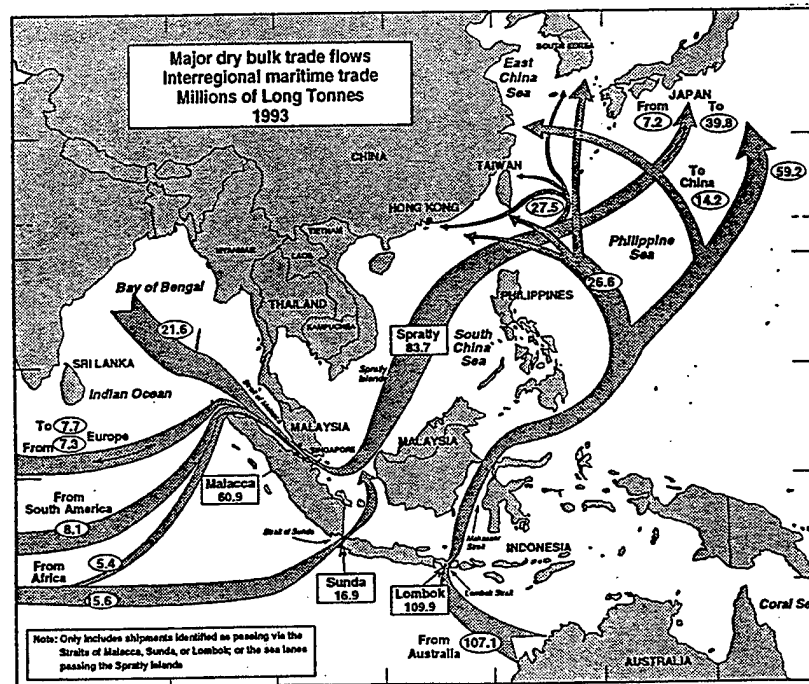


Figure 24. Major Bulk Industrial Goods Flows in Asia, 1993.³⁰³

³⁰²NDU, 18.

³⁰³NDU, 64.

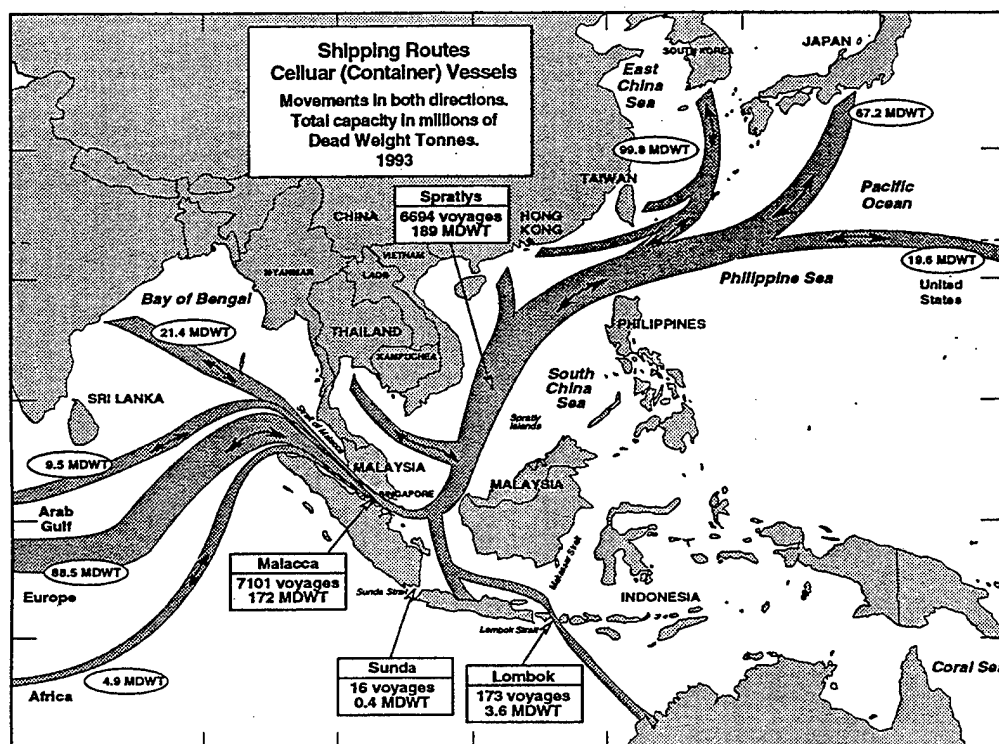


Figure 25. Major Container Shipping Routes in Asia, 1993.³⁰⁴

2. Foreign Port Access For China's Navy

China's political and military leaders have stated consistently that its military "will not establish military alliances with any country, and it will not station its army abroad or establish military bases abroad."³⁰⁵ However, this and other similar statements do not preclude PLAN ships from "visiting" or "temporarily deploying" to foreign ports. Beijing's active economic, political, and security engagement of foreign nations along the world's

³⁰⁴NDU, 66.

³⁰⁵"Minister Speaks at Japanese Institute," *Ta Kung Pao* (Hong Kong), FBIS, 5 February 1998. Minister Chi Haotian in "Speech Before the Japan Defense Research Institute," 4 February 1998. Minister Chi Haotian is concurrently China's Vice-Chairman of the CMC and Minister of National Defense.

littoral regions increases the potential of the PLAN's future access to international ports.

If China's maritime security strategy evolves into allowing PLAN protection of China's MMF in international SLOCs, PLAN ships would require access to foreign ports for repair, refueling, and replenishment. Based on levels of SFT and bilateral MSI cooperation, the probability for PLAN port access is high in Thailand, Malaysia, Singapore, Myanmar, Iran, Italy, Panama, and Australia.³⁰⁶ Based on levels of SFT, exclusive of MSI cooperation, future opportunities for PLAN port access include Sri Lanka, Pakistan, Saudi Arabia, Iraq, Saudi Arabia, Egypt, Sudan, Kenya, and South Africa. The probabilities of foreign port access for the PLAN are depicted in Appendix B.

Part of China's overall strategy for increasing its naval presence in the Western Pacific, Indian Ocean, and the Persian Gulf probably is to incrementally increase the frequency of bilateral naval port visits and initiate small-scale SLOC protection exercises. Foreign nations with weak navies would be motivated to cooperate with the PLAN to protect mutual maritime trading and transportation interests. These motivations increase the probability the PLAN would be allowed access to foreign ports in the Western Pacific, SCS, Indian Ocean, and the Persian Gulf.

3. Other Implications For the U.S. Navy and U.S. Coast Guard

Increases in SFT and bilateral Sino-foreign MSI cooperation decrease the chance of success for enforcing maritime economic sanctions against China. Maritime sanctions against China would affect negatively many nations because China's MMF carries cargo that

³⁰⁶The PLAN deployments in the SCS during 1997 included port calls at the Thai naval base in Sattahip and the Malaysian Naval base at Lumut, cited in Gary Kintworth, "The Chinese Navy: Developing Blue-Water Experience," *Asia-Pacific Defence Reporter*, February-March 1998, 20.

is often consigned to multiple foreign owners. Foreign nations dependent on China's MSI and SFT for their economic stability are unlikely to extend their navies' support for a coalition enforcing maritime sanctions against China. Expansion of SFT has decreased the threat to China from sanctions; as one Chinese military officer noted:

Of all the potential economic threats, the one which China faces most frequently is Western economic sanctions. To deal with economic sanctions imposed by some Western countries, China will strengthen its economic relations with all other countries in the world.³⁰⁷

Beijing perceives its support and ratification of UNCLOS III enhances its ability to protect China's MMF. Since the USN uses "Customary Law" as a rationale for its international operations and Washington has not yet ratified UNCLOS III, Beijing perceives the USN has a "weaker" legal basis for patrolling international SLOCs than the PLAN. The presence of the PLAN on international SLOCs could pose security risks to non-Chinese MMF shipping. These risks have implications that are illustrated by the comments of a Chinese security official who stated:

Provisions of UNCLOS provide justification for the PLAN to intercept, board, and inspect merchant shipping in international waters."³⁰⁸ Chinese Naval ships and aircraft will acquire corresponding powers according to the treaty . . . [and] will give warships and other ships innocent passage rights to the territorial seas of other countries' coastlines. Once the treaty takes effect, as the PLA Navy operations in sea areas expand and enforcement missions increase, opportunities for engagement or other international dealings by our naval warships with foreign commercial and military ships will grow ever more frequent. The navy is the only service arm that can engage in long-term actions outside our territory, with international law also granting our navy various rights and interests such as sailing the high seas and passage through

³⁰⁷Xu Xiaojun, 35.

³⁰⁸Liu Zhenhuan, "Impact of UN Law of the Sea On China's Maritime Rights and Interests, Part III," *National Defense*, FBIS, 15 November 1996.

concerned international straits.³⁰⁹

Beijing's desire to protect China's MMF in international waters can be viewed as not necessarily threatening to U.S. national security interests. Rather, they can be considered as opportunities for bilateral naval cooperation between the USN or U.S. Coast Guard (USCG) and the PLAN. During ceremonies welcoming three PLAN ships in San Diego, Vice-Admiral Brent Bennett commented "Although our two navies have different cultural backgrounds, they both have patriotic sailors dedicated to protecting the Pacific sea lanes that carry more than \$56 billion worth of bilateral trade."³¹⁰

Expansion of the PLAN's operations in international waters offers opportunities for the USN and USCG to cooperate with China in protecting mutual maritime shipping and trade interests. In 1997, Admiral Prueher, USCINCPAC, indicated the potential for future Sino-U.S. maritime security cooperation: "Because the U.S. and China share many common interest, we are attempting to engage China in a military-to-military relationship."³¹¹ Such cooperation would be a part of future bilateral and multilateral naval cooperation as envisioned by Admiral Jay L. Johnson, CNO, who stated:

In the post-Cold War world, nations must cooperate as never before to face the challenges -and threats- of the century to come. Navies must innovate and collaborate to ride out the changes in global security and commerce We are being asked to innovate . . . to attempt new, untested missions. We now confront spreading threats of terrorism, international drug trafficking . . . [he

³⁰⁹Liu Zhenhuan, "On the UN Law of the Sea Treaty and Thoughts on China's New-Age Coastal Defense Establishment," *China Military Science*, FBIS, 20 May 1997, 93-99.

³¹⁰Guangren Bao and David Devoss, "Chinese Warships Sail Into San Diego," *Asia Times*, 24 March 1997.

³¹¹Quote from text of Adm. Prueher's testimony before the House National Security Affairs Committee, 6 March 1997, cited in George C. Wilson, "Prueher: China Presents No Imminent Threat," *Navy Times*, 24 March 1997, 17.

advocated] more interaction among navies to keep them as vital, visible, and relevant in peacetime as in war. Joint efforts are possible in areas ranging from law enforcement at sea, to maintain safe waters for commerce, to disaster relief and humanitarian aid.³¹²

On 19 January 1998 in Beijing, the United States and China signed a "Military Maritime Consultative Agreement," which provides a basis for future bilateral naval cooperation.³¹³ The United States may be able to improve USN/USCG-PLAN relations and gain the support of China for proposals for bilateral and multilateral naval cooperation through formal regional security forums such as the ASEAN Regional Forum (ARF) and the Council for Security Cooperation in the Asia Pacific (CSCAP).³¹⁴ Examples of future cooperation between the USN/USCG and PLAN include bilateral port visits and naval exercises for search and rescue, humanitarian operations, and anti-piracy patrols to protect merchant shipping.

An emphasis on protection of merchant shipping as a basis for USN/USCG-PLAN cooperation is a rationale that incorporates three important considerations. One consideration is that this rationale removes the political and security stigmas attached to robust hostility-based joint and combined scenarios. Such scenarios include power-projection, territorial seizure, and sea-denial commonly emphasized in joint and combined exercises in the region.

³¹²Celeste Katz, "Navy Leader Touts Alliance Among World's Navies," *Providence Journal-Bulletin*, 4 November 1997, B3.

³¹³The agreement was signed by U.S. Secretary of Defense William Cohen and PRC Defense Minister Chi Haotian in Beijing. Bill Gertz, "China to Halt Missile Sales to Iran," *The Washington Times*, 20 January 1998, 1.

³¹⁴See Brian L. Job, "Bilateralism and Multilateralism: Achieving the Right Balance in Asia Pacific Security Relations," Paper presented at the *1997 Pacific Symposium, Military Forces in the Asia-Pacific Region: Cooperation and Conflict*, 28-29 April 1997.

Another consideration is that this rationale would be attractive to China because the USN and USCG can offer the PLAN assistance for improving its capabilities for protecting China's MSI.³¹⁵ This assistance could include the USN/USCG providing the PLAN with familiarization training in ship-handling, communications, underway replenishment, helicopter flight operations, maritime law enforcement, and Visit, Board, Search, and Seizure (VBSS) to combat piracy and smuggling. Such scenarios could be executed under USCINCPAC's Joint-Combined Exchange Training (JCET) or USCINCPACFLT's bilateral naval training programs between the U.S. and foreign nations in the Asia-Pacific region.

Still another consideration is based on the need for multilateral naval cooperation in protecting international MSI interests. These interests, shared by many nations, is a basis for such cooperation as Daniel Y. Coulter explains:

The internationalization of the shipping industry poses a quandary for navies, since they represent a national policy instrument in a world where states are becoming [economically] globalized. Hence, navies with their inherent national orientation must work together in scenarios that have adverse impact far beyond their territorial waters. Future disruptions to shipping and trade are certain to have international consequences and, therefore, are much more likely to demand multinational naval cooperation.³¹⁶

A key precursor to identifying whether China will commit the PLAN to protect China's MSI in international waters would be significant increases in funding for the PLAN beyond the present incremental modernization. China's perceptions of threats to its MSI partly determines funding for PLAN expansion. Regarding China's future military budget

³¹⁵In 1983, Jan S. Breemer discussed USN-PLAN cooperation based on a rationale of countering naval threats to Sino-U.S. maritime shipping posed by the Soviet Union. See Jan S. Breemer, "U.S.-Chinese Cooperation: The Naval Dimension", *U.S. Naval Institute Proceedings*, February 1983, 71-77.

³¹⁶Author's interview with Mr. Coulter, 5 May 1998.

expenditures, Defense Minister General Chi Haotian, stated: "In the future, China's national defense expenditures will not have a large-scale and substantive increase as long as no condition emerges that seriously threatens China's state sovereignty and safety."³¹⁷

³¹⁷"China: Minister Speaks at Japanese Institute," *Ta Kung Pao* (Hong Kong), FBIS, 5 February 1998.

APPENDIX A. CHINA'S REGIONAL MARITIME SHIPPING NETWORKS³¹⁸

Asia-Africa- South America	Intra-Africa	Asia-Oceania- North America (West Coast)	Asia-Europe	North America (East Coast) - Europe	Intra-Asia
China: Shanghai, Dalian, Jiangjian, Hong Kong,	South Africa: Capetown, Durban,	China: Shanghai, Hong Kong, Xiamen, Qingdao	China: Qingdao, Shanghai, Tianjin, Hong Kong	U.S.: Baltimore, Charleston, New York, Norfolk	China: Shanghai, Tianjin, Hong Kong, Xiamen
S. Africa: Durban, Cape Town, Port Elizabeth	Ghana: Tema	Australia: Sydney Brisbane, Melbourne	Belgium: Antwerp	Italy: Genoa, Naples	Malaysia: Penang, Klang
Kenya: Mombasa	Ivory Coast: Abidja	Fiji: Suva	Germany: Bermerhaven	France: Le Havre	Indonesia: Jakarta, Surabaya
Ivory Coast: Abidjan	Nigeria: Lagos	Japan: Yokohama Kobe, Nagoya	France: Le Havre	Germany: Bremerhaven	Kampuchea: Kompong Son
Tanzania: Dar-Es- Salaam	Cameroon: Douala	New Zealand: Auckland, Lyttelton.,	Malaysia: Kelang	Netherlands: Rotterdam	Philippines: Manila
Argentina: Buenos Aires	Congo: Matadi	Philippines: Manila	Netherlands: Rotterdam	Cyprus: Limassol	Vietnam: Ho Chi Minh City
Panama		S. Korea: Pusan	Singapore	Israel: Haifa	Singapore
Brazil: Santos, Vitori		Thailand: Laem Chabang	Thailand: Bangkok	Spain: Barcelona, Valencia	Thailand: Bangkok
Uruguay: Montevideo		U.S.: Seattle, Long Beach, Oakland	U.K.: Felixstowe	U.K.: Felixstowe	Sri Lanka: Columbo
Singapore		Singapore		Belgium: Antwerp	India: Bombay
		Canada: Vancouver			Saudi Arabia: Damman
					UAE: Dubai, Jebel
					Pakistan: Karachi

³¹⁸COSCO Homepage. Online. Available HTTP:<http://www.coscon.com/ship1/se>. 17 May 1998.

APPENDIX B. POTENTIAL OF FOREIGN PORT ACCESS FOR THE PLAN³¹⁹

Country	Military Relations	Political Relations	Economic Relations	Past PLAN Port Visit	Potential For Future Access
Vietnam	Poor	Poor	Fair	No	Poor
Cambodia	Fair	Good	Good	No	Good
Thailand	Good	Excellent	Excellent	Yes	Excellent
Philippines	Poor	Good	Good	Yes	Good
Malaysia	Fair	Good	Excellent	Yes	Good
Singapore	Good	Good	Excellent	No	Excellent
Brunei	Fair	Good	Excellent	No	Good
Indonesia	Fair	Fair	Good	Yes	Good
Myanmar	Excellent	Excellent	Excellent	No	Excellent
Bangladesh	Good	Good	Fair	Yes	Good
Sri Lanka	Fair	Good	Good	Yes	Good
India	Poor	Poor	Fair	No	Poor
Pakistan	Good	Excellent	Good	Yes	Excellent
Iran	Excellent	Excellent	Excellent	No	Excellent
Iraq	Good	Good	Fair	No	Good
UAE	Fair	Good	Excellent	No	Good
Kuwait	Fair	Good	Good	No	Good
Saudi Arabia	Fair	Excellent	Excellent	No	Excellent
Kenya	Fair	Good	Good	No	Good
South Africa	Fair	Excellent	Excellent	No	Excellent
Russia	Good	Good	Excellent	Yes	Excellent
Australia	Good	Excellent	Excellent	Yes	Excellent
New Zealand	Good	Good	Excellent	Yes	Excellent
Fiji	Fair	Good	Good	No	Good
Latin America	Fair	Excellent	Excellent	Yes	Good

³¹⁹Matrix variables estimated and derived based on author's own analysis of thesis research data.

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