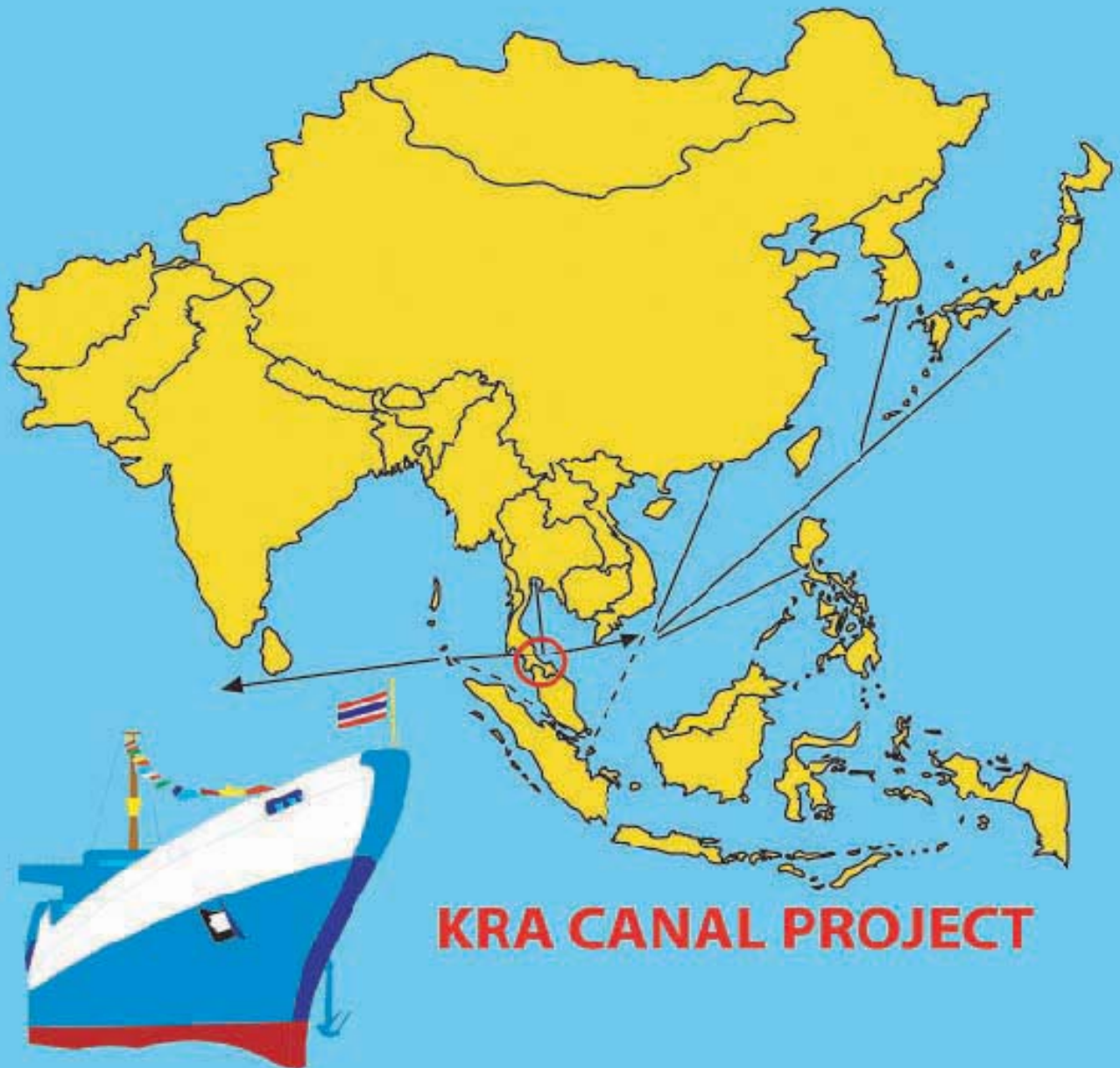
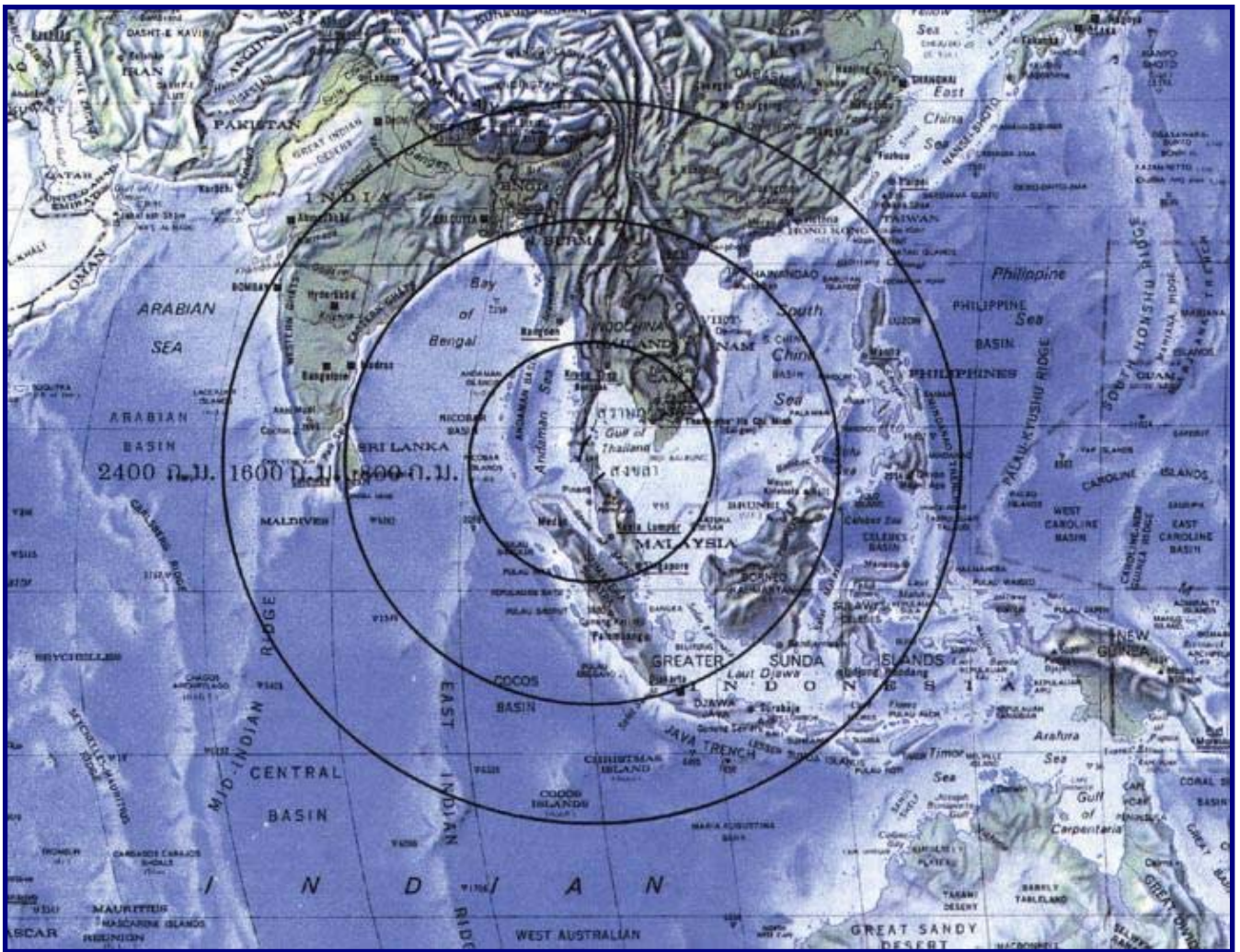


# KRA-CANAL REVISITED - A SUMMARY

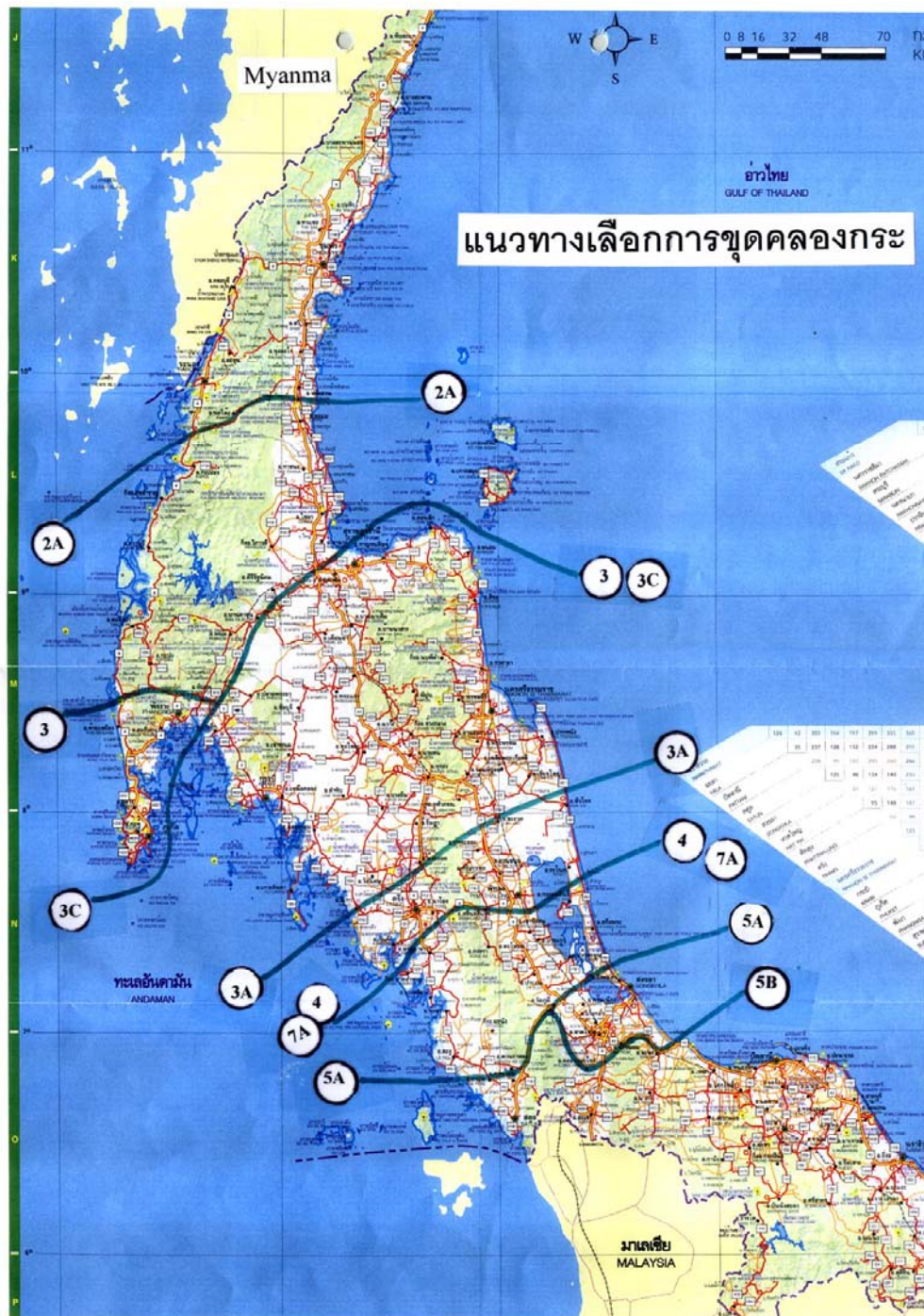


**Written and presented by Pakdee Tanapura**

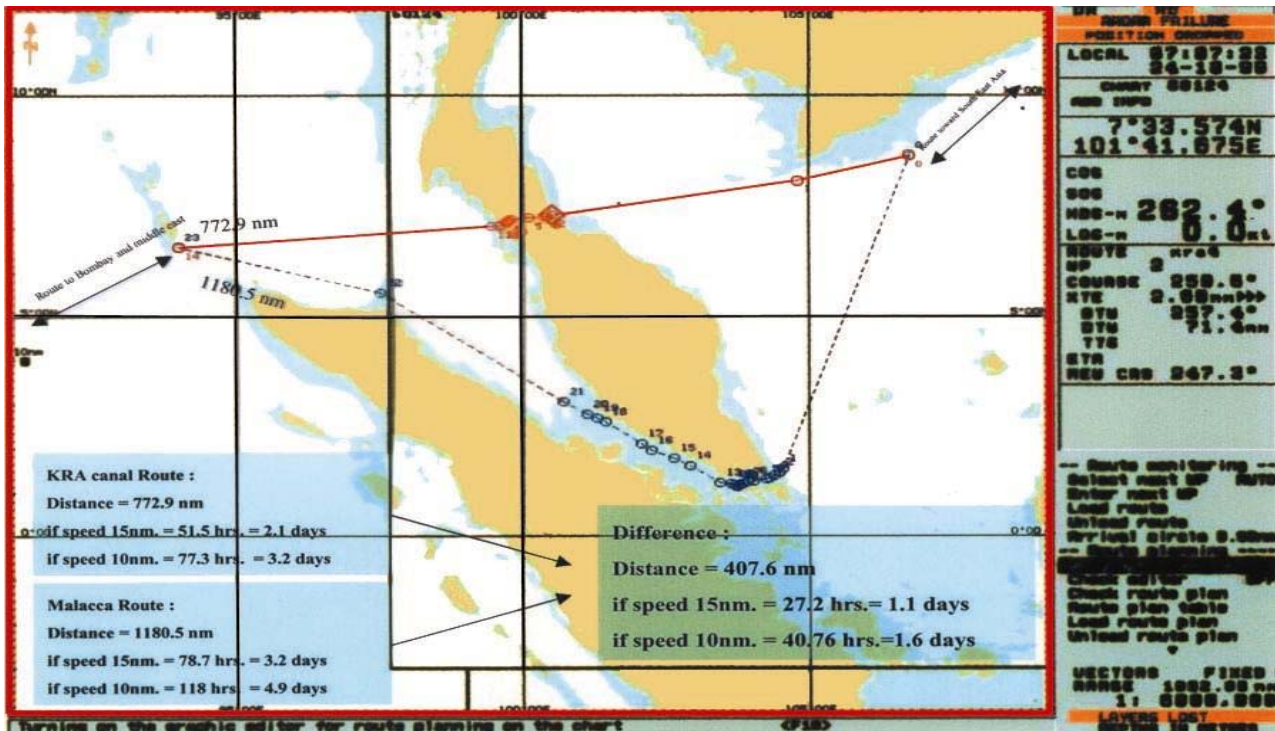
**May 2002 All rights reserved.**



**Kra Canal is strategically located between Pacific and Indian Oceans, a region that is sustaining more than two thirds of world population.**



**In 1973, TAMS Engineering had conducted a study of choices of Kra Canal routes and suggested that route 5A was the most suitable for the construction of a Kra Canal.**

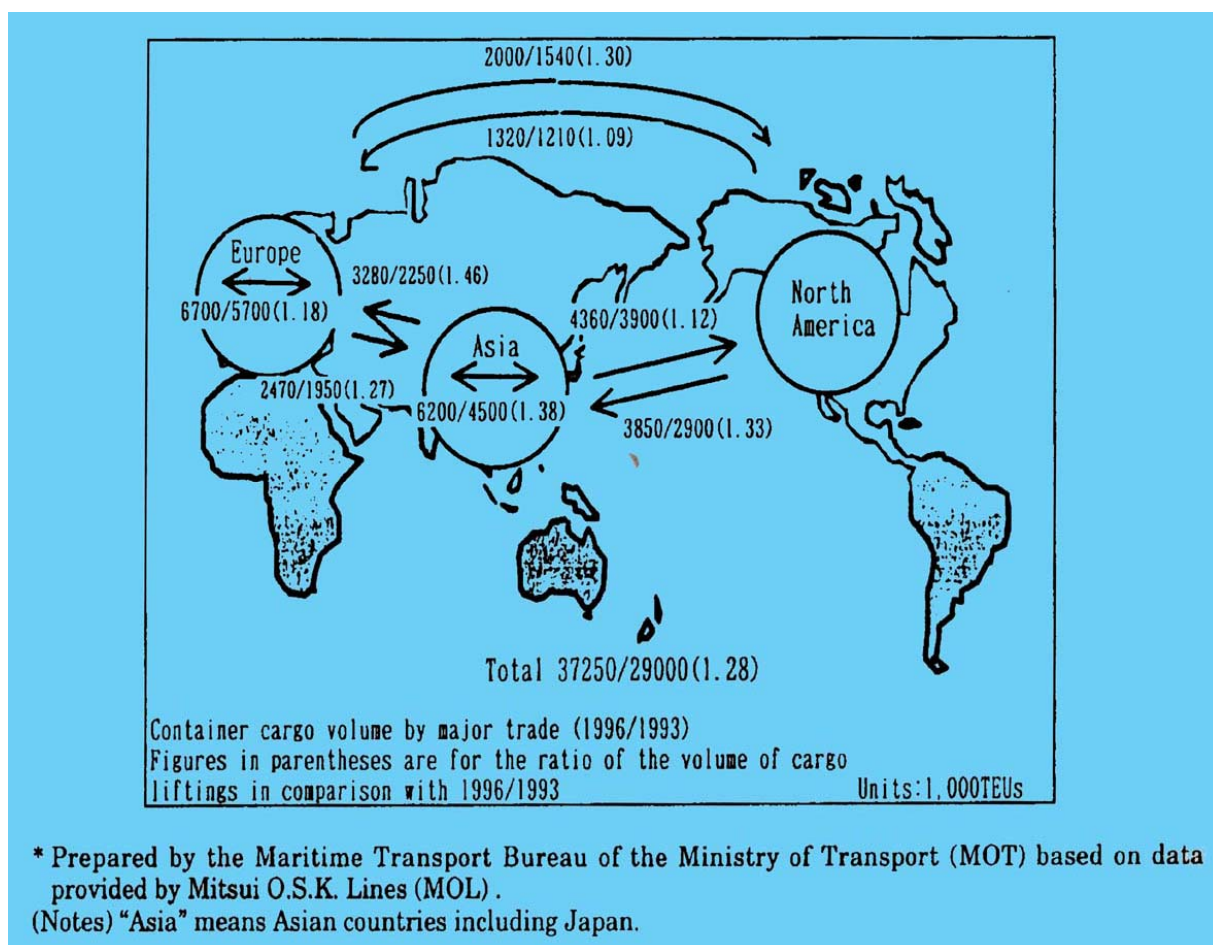


Even though distance savings by the Kra Canal in comparison with the present route of Malacca Straits, is not so significant, nevertheless according to a computerized picture, ships could save some 28 to 40 hours when travelling through the Kra Canal.

# **MALACCA STRAITS TRAFFIC ESTIMATES (SHIPS OVER 1,000 DWT)**

<b>1972</b>	<b>15,000</b>	<b>(MAX. 20,000) - TAMS</b>
<b>1993</b>	<b>42,000</b>	<b>(INTER-REG. ONLY)</b>
		<b>US. CNA</b>
<b>1997</b>	<b>92,000</b>	<b>U.S. CNA, LLOYDS</b>
<b>1999</b>	<b>103,000</b>	<b>U.S. CNA, LLOYDS</b>

***NOTE THAT THE KRA CANAL CAPACITY AT 80% OF ALLOWABLE DENSITY IS 110,000 SHIPS PER YEAR PER LANE.***



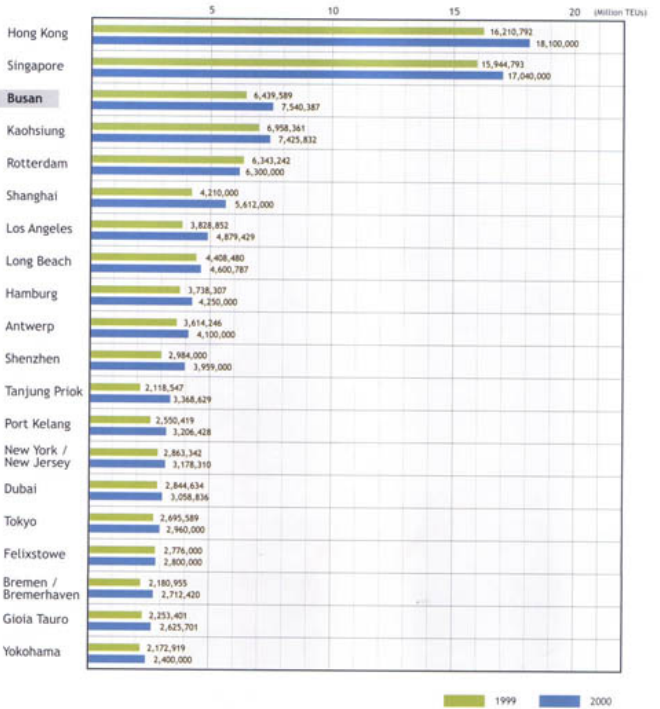
**(ESCAP FRAMEWORK FOR THE DEVELOPMENT OF NATIONAL SHIPPING POLICIES 1999)**

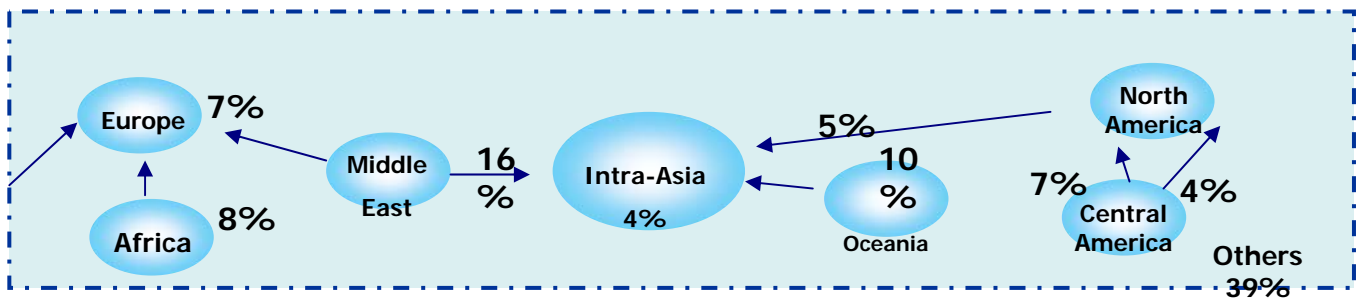
**Over 37 million TEUs of containers were traded in Asia in 1993. Many part of them passed through the Malacca Straits.**



STATISTICAL HIGHLIGHTS

Containers Handled by Major World Ports

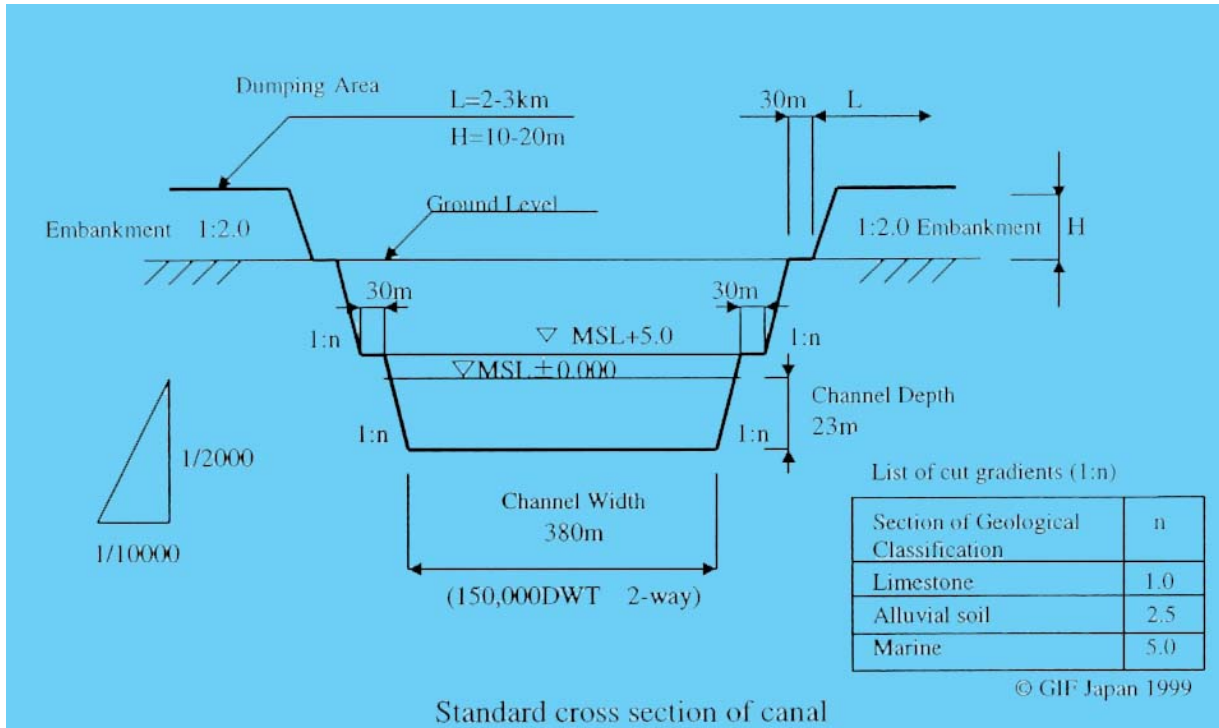




Share	Total	Crude	Oil	Coal	Iron Ore	Grain
Middle East – Asia	16%	398	398	0	0	0
Oceania – Asia	10%	230		114	108	15
Middle East – Europe	7%	173	173	0	0	0
Africa - Europe	8%	199	149	32	18	0
Central America - North America	7%	174	166	0	8	0
North America - Asia	5%	114	0	40	3	71
Intra-Asia	4%	105	48	28	29	0
Central America-Europe	4%	104	14	21	63	6
Others	39%	981	518	200	162	101
<b>Total</b>	<b>100%</b>	<b>2,485</b>	<b>1,466</b>	<b>435</b>	<b>391</b>	<b>193</b>

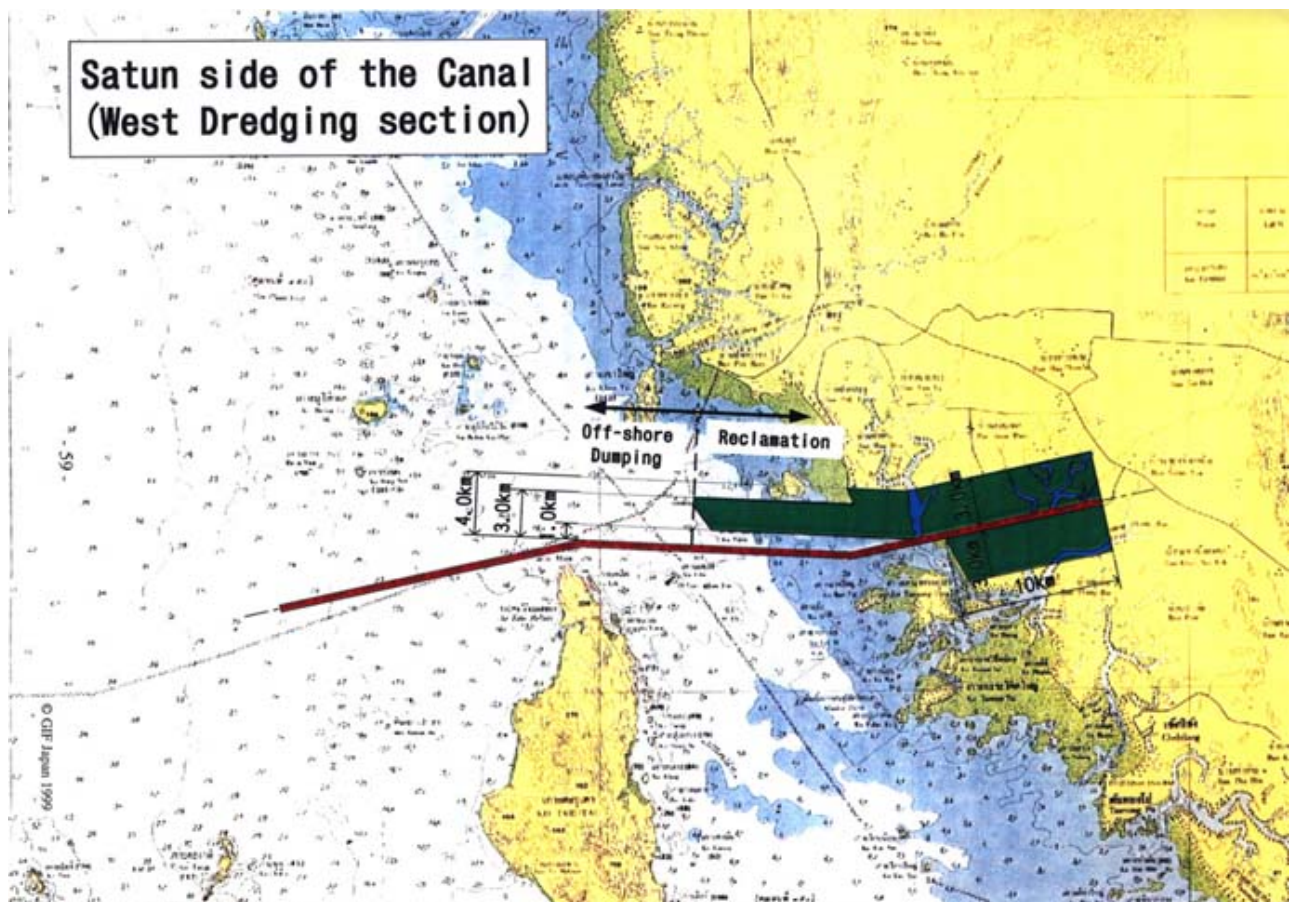
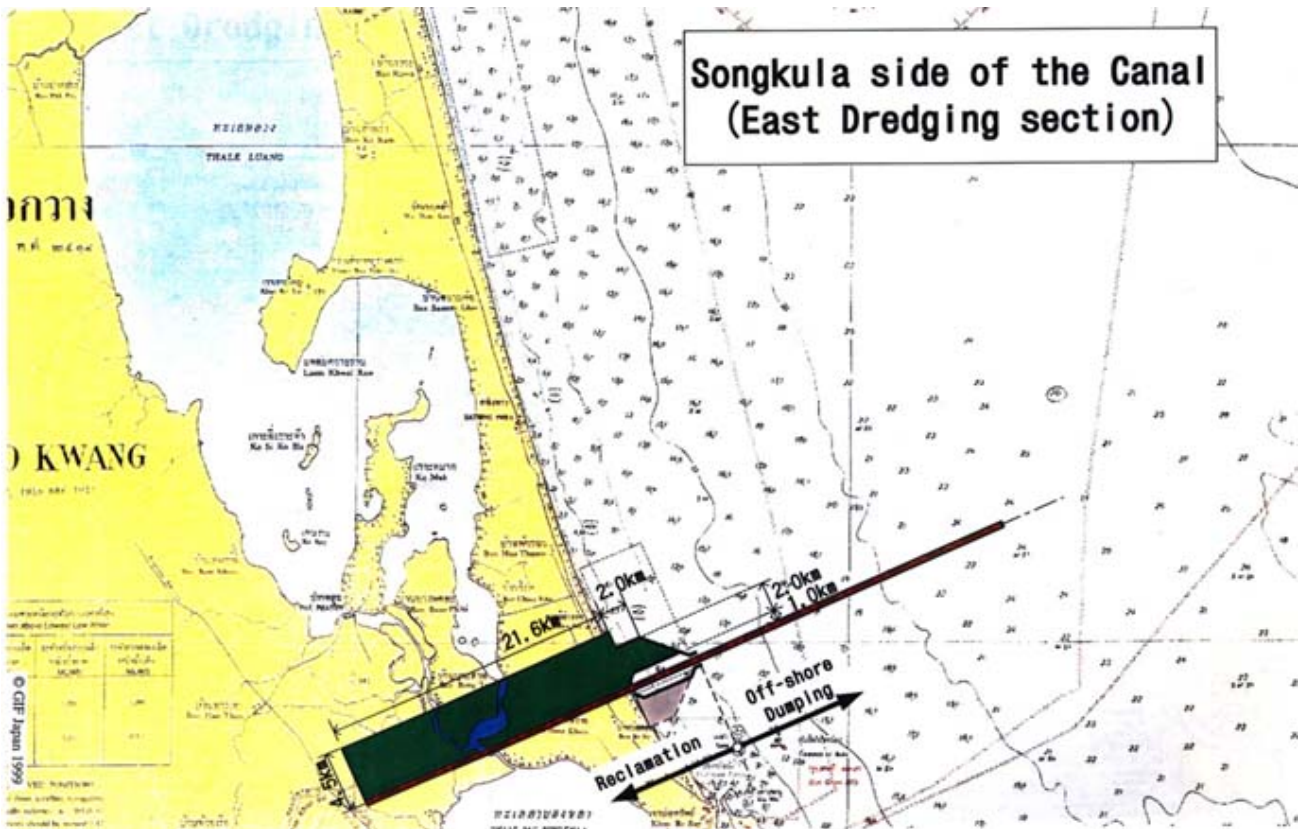
(ESCAP FRAMEWORK FOR THE DEVELOPMENT OF NATIONAL SHIPPING POLICIES 1999)

**In 1996, over 30% of world tankers, bulk cargo and general cargo were traded in the Asia Pacific Region, most of them transitted through the Malacca Straits.**

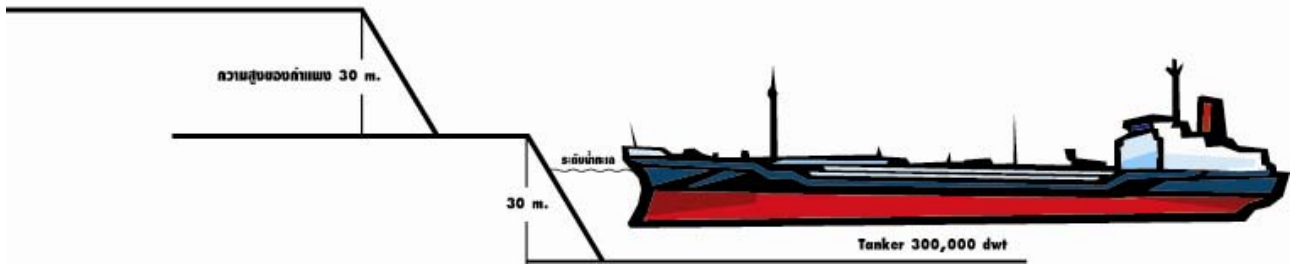


### Cross-section of the Kra Canal along the route 5A.

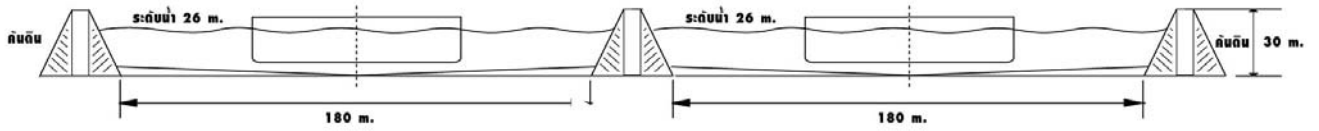




### ทางเข้าคลองยกระดับ



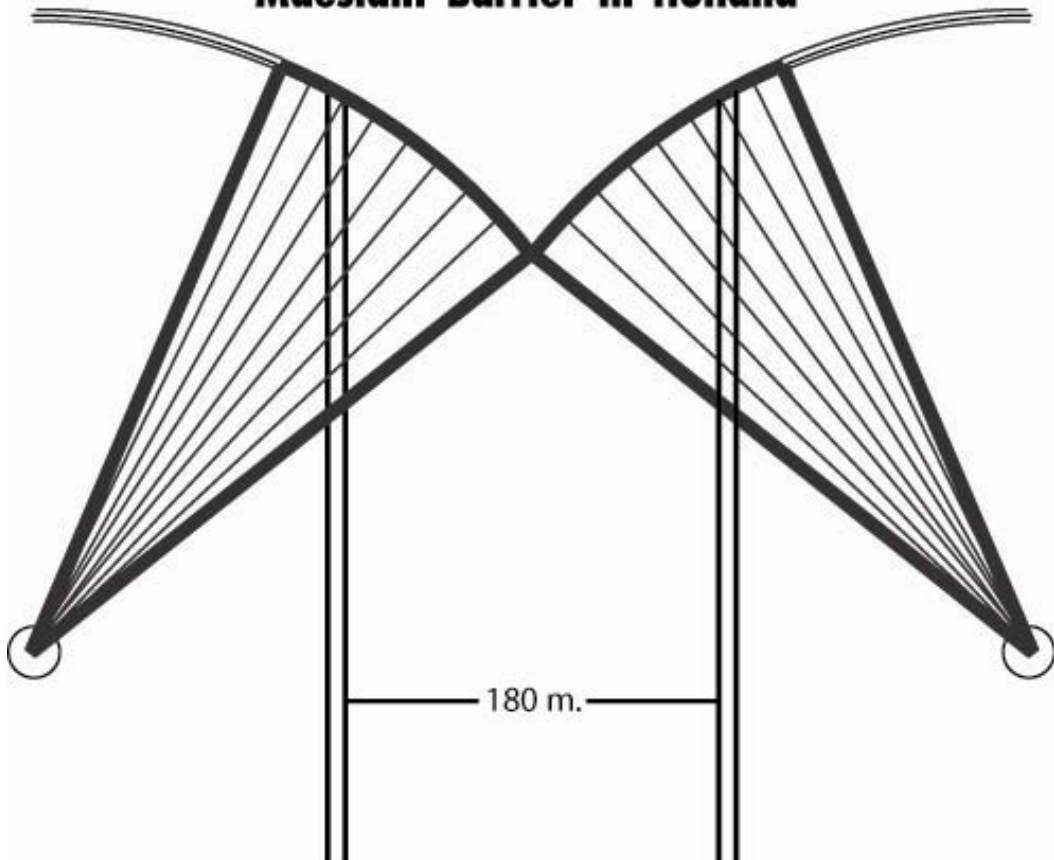
### ขนาดของคลองสำหรับ Tanker 300,000 dwt



## ประตูน้ำเปิด - ปิด ทางเข้าคลองยกระดับ



**Maeslant Barrier in Holland**





**SHIPYARD INDUSTRIES WILL PLAY A KEY ROLE IN INDUSTRIALIZATION OF THE SOUTH OF THAILAND**

## **THAILAND 1976**

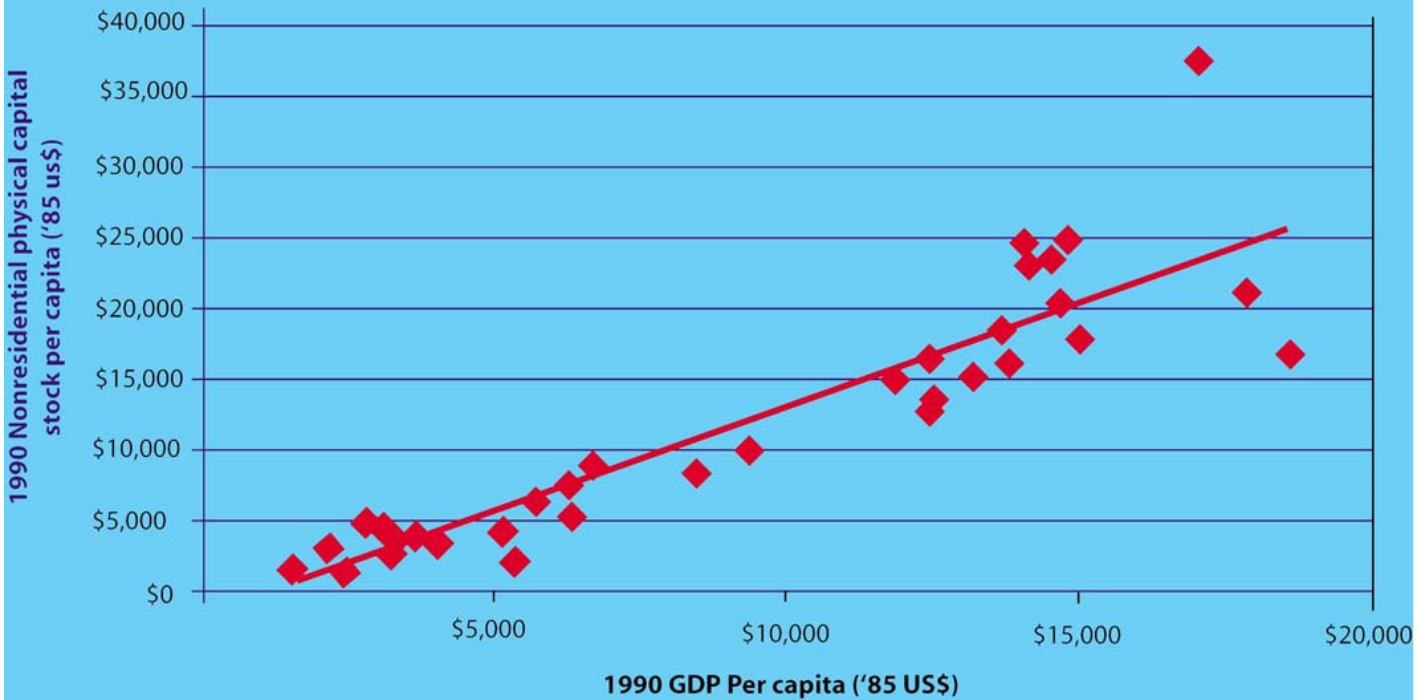
<b>GDP</b>	<b>\$ 18 BILLION</b>
<b>EXPORTS</b>	<b>\$ 3 BILLION</b>
<b>COST / GDP</b>	<b>39% (46%)</b>
<b>COST / EXP</b>	<b>235 (278%)</b>

## **THAILAND 2003**

<b>GDP</b>	<b>\$ 150 BILLION</b>
<b>EXPORTS</b>	<b>\$ 70 BILLION</b>
<b>COST /GDP</b>	<b>17% (20%)</b>
<b>COST / EXP</b>	<b>36% (43%)</b>

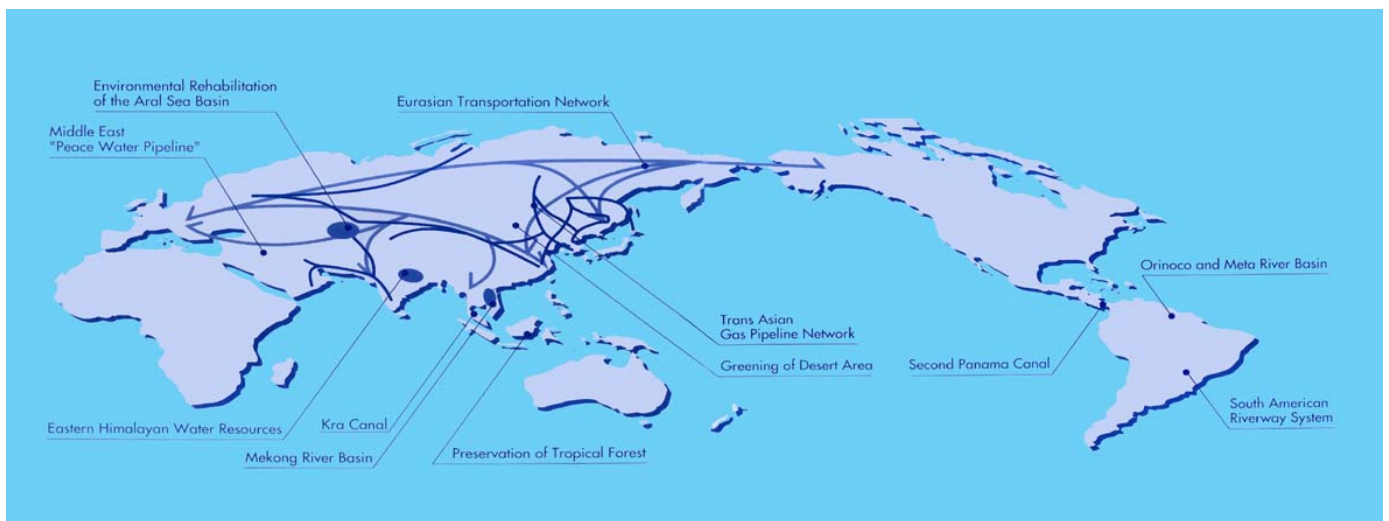
**The size of the Thai economy by the year 2003 will be large enough to support an investment of US\$ 20 billion in the Kra Canal project.**

## Infrastructure Per Capita and Income



**Study of growth of GDP related to the development of infrastructures by professor Fred Moavenzadeh from MIT.**

# Current GIF Research Projects



**The success of the Kra Canal project will create an era of international economic collaboration for other mega-projects throughout the region.**

# Malaysian oil pipeline would bypass sea path

From news reports

**KUALA LUMPUR:** A \$7 billion pipeline to be laid across northern Malaysia will divert up to a third of oil now being carried through the Strait of Malacca, ensuring a secure supply from the Middle East to East Asia, officials said Monday.

The pipeline would stretch 300 kilometers, or 185 miles, from Kedah State, on the northwestern coast, to Kelantan State, in the northeast.

Work is scheduled to begin in 2008 and finish in 2014, said Rahim Kamil Sulaiman, chairman of the project owner, Trans-Peninsula Petroleum.

"This is not a political project," Rahim said at a news conference. "It is a commercial undertaking. The project is economically viable."

He said the pipeline would be a substitute for the Strait of Malacca, through which half the world's oil is shipped. The strait is also notorious for robberies and hijackings, although the number of attacks has fallen since Malaysia, Indonesia and Singapore, which share the waterway, increased patrols in 2005.

Rahim said the timing of the pipeline was perfect because more oil was being shipped to China, which has become the world's second-largest importer of oil, behind the United States.

Earlier Monday, Trans-Peninsula signed an agreement with the Malaysian company Ranhill Engineers & Constructors and with the Indonesian company PT Tripatra for the design and construction of the pipeline.

The signing was witnessed by the Malaysian prime minister, Abdullah Ahmad Badawi, and the Indonesian president, Susilo Bambang Yudhoyono.

Trans-Peninsula has also linked up with a Saudi company, Al-Banader International Group, for oil supplies but has given no details on this cooperation.

Financing for the construction of the pipeline will come from local and foreign investors, Rahim said without discussing details.

Under the plan, crude oil would be refined in Kedah, pumped through the pipe to Kelantan and then loaded onto tankers bound for Japan, China and South Korea, completely bypassing Singapore and the Strait of Malacca.

Kedah's chief minister, Mahdzir Khalid, told reporters that two refineries, costing a total of \$9 billion, would be built in Kedah by 2010 with a combined refining capacity of 450,000 barrels a day.

Two Malaysian companies, SKS Ventures and Merapoh Resources, are expected to present details of the refineries in August, he said. The first of three pipes is expected to be ready in 2011.

Malaysia and Singapore, economic rivals since they split in 1965, are vying to control the passage of crude between the Far East and the rest of the world. Singapore is Asia's biggest oil trading center.

"If it's going to divert traffic, it's going to have some effect on Singapore," said Kaladher Govindan, head of research at TA Research in Kuala Lumpur.

"If they can get the pipelines fully utilized, if they can get customers from the Middle East, I don't see why they can't pull it off," Govindan said.

China, which is the world's fastest-growing major economy, bought record volumes of crude oil in March and April. China imported 3.6 million barrels of oil a day last month and 3.3 million barrels a day in March, customs figures show.

"The oil market has shifted to East Asia and China is a significant player in oil pricing and demand," Rahim said. "With this project, it will take a shorter time for oil supplies to reach their destination."

Shares of Ranhill, which is based in Kuala Lumpur, were suspended for the announcement.

The stock last traded on Friday at 1.81 ringgit, or 53 U.S. cents. The shares, which have jumped 44 percent this year, will resume trading Tuesday, the company said.

An Indonesian company, PT Bakrie & Brothers, will supply pipes for the project, the statement said.

About 10 million barrels of oil, or 12 percent of the world's daily production, passes through the Strait of Malacca each day, according to the International Energy Agency.

The pipeline across Malaysia, whose territory also includes two states on the island of Borneo, may carry 20 percent of the oil that passes through the strait, Ranhill and Trans-Peninsula said. The project will initially have a storage capacity of 60 million barrels, they said. Offshore mooring facilities will be built at both ends of the pipeline to accommodate very large crude carriers, or supertankers. Ranhill said it would start buying land next year. (AP, Bloomberg)

