

THE LEGAL FEASIBILITY OF THE IMPOSITION OF A TRAFFIC LIMITATION SCHEME IN STRAITS USED FOR INTERNATIONAL NAVIGATION: A STUDY OF THE STRAITS OF MALACCA AND SINGAPORE

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Abstract

The Straits of Malacca and Singapore are two of the most significant international chokepoints with navigational traffic amounting to almost 80,000 vessels annually. Part III of the United Nations Convention on the Law of the Sea 1982 prescribes that vessels and aircraft of all flags may exercise the unimpeded right of transit passage while navigating through straits used for international navigation. The conferment of this right to ships of all flags creates a difficult situation for States bordering busy waterways, particularly in protecting the marine environment of those straits from vessel-source of marine pollution. Hence, this paper aims to discuss the question of the viability and practicability of the application of this traffic limitation scheme if such a scheme is introduced in the Straits of Malacca and Singapore and the potential legal and political implications arising out of such an implementation.

Keywords: Law of the Sea, Environmental Law, Straits of Malacca and Singapore

1. INTRODUCTION

The Straits of Malacca and Singapore are two of the most important shipping lanes in the world that facilitates international trade (George, 2008). These waterways were traversed by more than 70,000 vessels in 2007 (Mandryk, 2008). With the emerging economies of East Asian giants namely China, Japan and South Korea, both the Straits of Malacca and Singapore will continue to increase in their significance as tanker pipelines connecting the oil producers in the Middle East with their East Asian consumers (Sien, 1998). If the current trend continues, it is predicted that by 2020, the Straits would be navigated by approximately 150,000 vessels yearly, a double of what they are burdened with now (Beckman, 2009). Another report by the Maritime Institute of Malaysia (MIMA) revealed that by the year 2024, the navigational traffic in the Straits of Malacca and Singapore would be around 122,640 transits annually (H. Ibrahim & Sh, 2009). The other convenient alternative routes to the Straits of Malacca and Singapore would be through the longer Sunda and Lombok-Makassar Straits passageways within the Indonesian archipelagic waters (Rusli, 2010a). There have also been proposals to construct the Thai Canal through the Isthmus of Kra in Thailand (Thapa, Kusanagi, Kitazumi, & Murayama, 2007)ⁱ, and to erect oil pipelines from one side of the Peninsula Malaysia to the other under the project named Trans-Peninsula Pipeline Project (TPP), linking the Andaman Sea to the South China Sea, so that vessels could escape the busy and constricted Straits of Malacca and Singapore (Azman, 2007)ⁱⁱ.

2. NAVIGATIONAL HAZARDS IN THE STRAITS OF MALACCA AND SINGAPORE

The Straits of Malacca and Singapore are not entirely safe for navigation. The waters of the Straits are rather shallow, and the water level varies with the changing of the tides (H. M. Ibrahim, Husin, & Sivaguru, 2008). More often than not, the seabed also shifts, creating serious risks of groundings (Dyke, 2009). The Straits narrow at different points along their length with the narrowest point in the Strait of Singapore being only 3.2 kilometres in breadth hence making navigation in the Straits more intricate (George, 2008). Accidents and maritime collisions in the Straits of Malacca and Singapore are also influenced by other factors such as the heavy density of traffic, poor visibility during squalls, numerous shoals and banks that often change in location along the waterways, confusing crossing patterns by small domestic craft and several wrecks in certain localities along the Straits.

3. THE EFFECTS OF VESSEL-SOURCE OF MARINE POLLUTION IN THE STRAITS OF MALACCA AND SINGAPORE

Oil spill are typical with shipping activities, be it through operational or accidental discharges (Basiron, 2010). Due to heavy shipping activities, it was recorded that coral reef development in the Strait of Malacca is amongst the lowest in this region (Emran, 2007). Mangrove ecosystem along the Strait of Malacca, especially in the south-western corner of the Malaysian State of Johor is being threatened by constant soil erosion as a result of high navigational density plying the waterway (Basiron, 2008).

Besides oil spill, shipping activities discharge other types of harmful and unwarranted wastes through expulsion of marine debris, disposal of sewage, spills of hazardous and noxious chemicals and substances, noise emissions and air pollution. This condition is further aggravated by the fact that the littoral States' powers to impose environmental protection measures in these waterways are limited by application of accepted international regulations (Beckman, 2004). Their hands and legs are bonded based on the fact that they cannot act unilaterally on matters pertaining to maritime traffic regulation and protection of the marine environment of the Straits,ⁱⁱⁱ as the Straits of Malacca and Singapore are considered as straits where the unimpeded right of transit passage applies.^{iv}

4. CO-OPERATIVE MECHANISM IN THE STRAITS OF MALACCA AND SINGAPORE

Currently, there is an ongoing co-operative mechanism scheme between the littoral States and the User States in managing the issues on safety of navigation and the control of vessel-source pollution in the Straits (Ho, 2009). Nevertheless, these developments have been moving rather slowly and have not kept pace with the increasing number of ships that transit the Straits of Malacca and Singapore each year. To date, Japan is the only User State that has consistently assisted the littoral States; the Nippon Foundation of Japan took the initiative to donate (in American dollar [USD]) USD2.5 million in 2009 to the Aids to Navigation Fund (the Fund), which was set up in 2008 to deal with the Straits maintenance (Tharp, 2010). The 2009 budget for the Fund was USD8 million but it has managed to raise only around USD5 million, with USD2.5 million coming from the Nippon Foundation (Bateman, 2009b), (Ahmad, 2010). Given that the Straits are projected to accommodate constant increase of shipping traffic in the future, the current available environmental protection regime including the co-operative mechanism scheme may not be entirely sufficient to protect the marine environment of these shipping lanes. Besides, with more vessels plying the Straits, the question of safety and environmental concerns will become more acute for the littoral States bordering the Straits of Malacca and Singapore (Hamzah, 2008). If this situation continues, it may be difficult in the future to promote environmental sustainability in the waters of the Straits of Malacca and Singapore. As such, suggestions have been made to designate the Straits as a Particularly Sensitive Sea Areas (PSSA) to further protect and preserve the marine environment of the Straits (Dyke, 2009), (Unlu, 2006).

The provisions of the transit passage regime were negotiated when principles of international environmental law were just beginning to emerge. The framework for protection and preservation of the marine environment in the LOSC has been considerably amplified by modern conservation principles and norms such as the precautionary principle, conservation of biodiversity, sustainable use and the polluter pays principle since the LOSC was negotiated. Therefore does the right of transit passage remain unqualified? Bateman asserts:

“The right of transit passage may be increasingly qualified in the future by the growing trend among coastal States to introduce measures for the protection of the marine environment which impact upon navigation”(Bateman, 2009a).

Australia has pioneered a new development in State practice on the governance of straits used for international navigation through its introduction of a compulsory pilotage regime in the waters of the Torres Strait. This State practice may be an early sign that the assumption that transit passage is an unqualified navigational right for all vessels and aircrafts exercising transit in straits used for international navigation has been modified to take into accounts the environmental responsibilities of both the littoral States and the user States.

5. STRAITS OF MALACCA AND SINGAPORE PSSA OR A STRAIT OF MALACCA PSSA: LEGAL AND POLITICAL IMPLICATIONS

The International Maritime Organization (IMO) is the only international body responsible for PSSA designation. To date, there are 11 PSSAs in the world with the Torres Strait being the only strait used for international navigation that has been designated as a PSSA. A PSSA is an area that needs special protection through action by IMO because of its significance for recognised ecological or socio-economic or scientific reasons and which may be vulnerable to damage by international maritime activities ("Particularly Sensitive Sea Areas," 2002). An application to IMO for designation of a PSSA and the adoption of APMs, or any amendment(s) to them, may be submitted only by a Member Government ("Revised Guidelines For the Identification and Designation of Particularly Sensitive Sea Areas," 2006). A co-ordinated proposal should be formulated where two or more Governments have a common interest in that particular area. The interested State or States wishing to have the IMO to designate a PSSA should submit an application to the MEPC based on certain criterias, *inter alia* ecological criteria, social, cultural and economic criterias as well as scientific and educational criterias. Consideration would be given on these factors:

- (a) Vessel traffic characteristics which include vessel operational factors, vessel types, traffic characteristics and the harmful substances that the vessels are transporting;
- (b) Natural factors which consist of hydrographical, meteorological and oceanographic factors.

In order for the proposal or proposals to be seriously considered, the proposing State or States should provide evidence to show the vulnerability of the area to international shipping and to propose any APMs that would be effective in averting future environmental damage and in helping the protection and preservation of the marine environment of that specified area. Resolution A.982 (24) or its full name, *Revised Guidelines for the Identification and Designation of PSSAs*, states that:

An application for PSSA designation should contain a proposal for an APM or measures aimed at preventing, reducing or eliminating the threat or identified vulnerability. APMs for PSSAs are limited to actions that **are to be, or have been**, approved and adopted by IMO, for example, a routing system such as an area to be avoided. (emphasis added)

Views have been expressed that the Strait of Malacca as a whole would not qualify for designation as a PSSA, but only a specifically defined area of the waterway which is in need of special protection (Beckman, 2004). Based on the criteria which need to be fulfilled for a PSSA designation, it would not be impossible for both straits to qualify as a PSSA as they both have significant ecological or socio-economic or scientific value which may be vulnerable to damage by international maritime activities such as shipping movements and discharges of harmful substances.^v As stated by Van Dyke:

“The Malacca Strait might be a logical candidate to be designated by the IMO as a particularly sensitive sea area because of the human and economic dependency on this Strait. Its economic importance as a transport channel is unquestioned and the closure of the Strait because of an accident...would be disastrous to the region and the world, and would cause severe harm to other economic activities in the region including offshore fishing, tourism and mangrove harvesting” (Dyke, 2009).

Assuming that the both Straits of Malacca and Singapore are to be designated as a PSSA, there are a few APMs that might be potentially suitable to be imposed in these crucial waterways.

5.1 The Proposed Traffic Limitation Scheme on the Straits of Malacca and Singapore

A potential APM which might be imposed in a proposed Straits of Malacca and Singapore PSSA is a limitation on shipping traffic. Such a plan to cap shipping movement in the Straits was suggested by the Malaysian government in 2008 (Hock, 2008). As reported in Hock (2008), the then Deputy Prime Minister of Malaysia, Najib Razak contended that:

Malaysia believes there is an ultimate ‘tipping point’ for maritime traffic in the strait beyond which further increases will become not only risky but also too dangerous and costly. At such point, the cost to ensure safety of navigation will also increase exponentially.’

An argument against this APM would be that it is inconsistent with Part III of the LOSC which provides for all ships to exercise the unimpeded right of transit passage in straits used for international navigation. Under customary and conventional international law, straits have always been deemed to be opened to maritime traffic. Even before the LOSC came into force, conventions and treaties regarding straits contained provisions that ensured freedom of navigation for vessels sailing through straits:

- (a) Article 2 of Section 1 of the Montreux Convention 1936 (Montreux Convention) that governs navigation in the Turkish Straits states that in times of peace, merchant vessels shall enjoy complete freedom of transit and navigation in the Straits regardless of their flags and the cargoes they are carrying (Unlu, 2002);
- (b) Article 7 of the Torres Strait Treaty ensures freedom of navigation and overflight over the Torres Strait ("Treaty Between Australia and the Independent State of Papua New Guinea Concerning Sovereignty and Maritime Boundaries in the Area Between the Two Countries, Including the Area Known as Torres Strait, and Related Matters," 1985);
- (c) Article V of the 1881 Boundary Treaty between Argentina and Chile confers freedom of navigation for vessels of all flags to sail through the Strait of Magellan (Morris, 1989).

The Montreux Convention 1936 (Montreux Convention) which governs navigation in the Turkish Straits, comprising the Dardanelles, the Sea of Marmora and Bosphorus, has different provisions from other treaties and conventions regarding straits. It guarantees freedom of navigation to all ships to ply the Turkish Straits, however, it imposes some limitations and conditions on both merchant and naval vessels transiting the Straits, depending on the prevailing political situation. Article 6 of the Montreux Convention provides:

Should Turkey consider herself to be threatened with imminent danger of war, the provisions of Article 2 shall nevertheless continue to be applied except that vessels must enter the Straits **by day** and their transit must be effected by the route which shall, in each case be indicated by the Turkish authorities. (own emphasis)

The Montreux Convention also imposes limitations on the aggregate tonnage of naval vessels while transiting or being present in the Turkish Straits. Article 14 of the Montreux Convention provides:

The maximum aggregate tonnage of all foreign naval forces which may be in course of transit through the Straits shall not exceed 15,000 tonnes...

Article 18(1) (a), (b) and (c) of the Montreux Convention place limitations on the aggregate tonnage which non-Black Sea Powers may have while being present in the Turkish Straits:

Article 18

- (1) The aggregate tonnage which non-Black Sea Powers may have in that sea in time of peace shall be limited as follows:
 - (a) Except as provided in paragraph (b) below, the aggregate tonnage of the said Powers shall not exceed 30 000 tonnes;
 - (b) If at any time the tonnage of the strongest fleet in the Black Sea shall exceed by at least 10 000 tons the tonnage of the strongest fleet in that sea at the date of the signature of the present Convention, the aggregate tonnage of 30, 000 tons mentioned in paragraph (a) shall be increased by the same amount, up to a maximum of 45 000 tons...;
 - (c) The tonnage which any one non-Black Sea Power may have in the Black Sea shall be limited to two-thirds of the aggregate tonnage provided for in paragraphs (a) and (b) above.

Although customary international law and the LOSC dictate that straits shall always be open for navigation, the State practice disclosed in the Montreux Convention is a historical exception to this general rule, however, the limitations prescribed by the Montreux Convention upon merchant vessels in Turkish Straits are only applicable in war and the limitations on average aggregate tonnage only apply to naval ships. This instance of divergent State practice shows that putting limitations or conditions on vessels transiting straits is not entirely unprecedented.

Even though the Straits of Malacca and Singapore are not governed by a long standing international convention like the Turkish Straits, this may not preclude littoral States from placing some limitations on ships transiting the Straits for environmental protection purposes by other means. A potential justification for such limitations, which could be argued in a submission to the IMO, is that the Straits of Malacca and Singapore have only certain carrying capacity for shipping traffic. If shipping traffic goes beyond certain limits, it may adversely impact the well being of the marine environment to the extent of causing irreparable damage. As H.M. Ibrahim argues:

There may well be a tipping point, beyond which any further increase would be too costly and hazardous...there is a limit to the carrying capacity of the straits (H. M. Ibrahim, 2008).

The reasons why the Montreux Convention imposed limitations on shipping traffic in the Turkish Straits (depending on the prevailing political situation) was associated with Turkey's security. Therefore, the reasons for imposing such limitations in the case of the Straits of Malacca and Singapore would be so as to enable the littoral States protect and preserve the integrity of the marine environment of the Straits from being degraded by heavy shipping activities. The IMO PSSA Guidelines provide that the APMs for PSSAs must be those that 'are to be' or 'have been' approved by the IMO such as routeing systems. A traffic limitation scheme could be characterised as a routeing system in that it helps to regulate traffic especially in the narrow, busy and constricted waters of the Straits of Malacca and Singapore.

Undoubtedly if traffic limitations were proposed as an APM in a submission made to the IMO on designation of the Straits of Malacca and Singapore as a PSSA, member States would question the import and content of this measure as well as its legality. Would it involve only certain types of vessels like giant mega tankers or otherwise? What would be the maximum limit on shipping movements through the Straits daily, monthly or even yearly? Who would have the authority to decide on the maximum volume of shipping traffic that can traverse the Straits? Does the limitation relate to the maximum gross tonnage of vessels? If so what is the maximum gross tonnage per ship per day allowed to traverse the Straits? Would a vessel be penalised if it violated the limitation regulations? Maritime States are likely to argue that such a measure would be inconsistent with the LOSC, particularly Articles 38(1) and 44. They may also contend that this proposed APM would create an undesired precedent to be followed by other States bordering straits on other parts of the world. Moreover, this proposed APM would cause undue delays in maritime shipments and unwarrantedly disrupts the free flow of international trade, as there will be quotas as to the amount of shipping traffic that could sail the Straits at a time. Shipping costs would also increase as ships are compelled to navigate through longer alternatives like the Sunda or Lombok-Makassar Straits routes via the Indonesian archipelagic waters (Ho, 2009).

A study has estimated that the cost of rerouting tankers to Japan away from the Straits of Malacca and Singapore route will increase the cost of doing business by US\$88 million (Ho, 2009). Certainly, this would not be to the delight of major maritime States that depend on the Straits for the survival of their economies. Putting these oppositions aside, in relation to implementation of such a measure, discussions could be convened between the littoral States, user States, private stakeholders and the IMO in order to determine the best method of limiting shipping traffic so as to protect the marine environment of the Straits without substantial disruption to global trade. Further research would also be needed into the sustainable traffic carrying capacity of the Straits, taking into consideration the biodiversity, socio-economic and scientific importance of the Straits. A preliminary study conducted by Maritime and Port Authority of Singapore (MPA) released in November 2009 revealed that the Strait of Malacca can sustain traffic up to five times the current level ("Working Paper For "Carriage Capacity of the Straits of Malacca and Singapore", 2009), and noted that the Strait of Singapore could safely accommodate a doubling or more of vessel traffic in the future (Ho, 2009).

The study pointed out that in 2007, there were 257, 000 vessel movements in the Strait of Singapore based on actual vessel reports to the Vessel Traffic Services (VTS) in Singapore. Furthermore, the study indicated that the number of accidents and collisions in the Strait of Singapore has, over the period of three years since 2006, remained constant despite the steady increase of shipping traffic, manifesting that the increase in traffic volume may not directly affect the safety of navigation of shipping activities in the Strait of Singapore. However the data used in this analysis was dated and lacks precision. The second phase of this study by MPA will venture into possible traffic management measures to ensure smooth and safe navigation in the Strait of Singapore is guaranteed. In contrast, the study conducted by Maritime Institute of Malaysia (MIMA) claimed that the maximum carrying capacity of the Strait of Malacca is 122, 640 vessels which is predicted to happen soon in 2024 (H. Ibrahim & Sh, 2009). This study by MIMA applied queuing theory as a methodology and projected carrying capacity based on traffic data generated by the STRAITREP system. Similarly, a study in 2007 conducted by the Japan Ministry of Land, Infrastructure and Transport in conjunction with the Nippon Foundation projected the Straits of Malacca and Singapore will accommodate more shipping traffic in the future, with a projected volume of 141, 000 vessel transits annually (Ho, 2009). Although these three separate studies differ in their methodologies and conclusions as to the precise carrying capacity of the Straits, the general agreement derived from these studies is that, with the steady increase of shipping traffic in the Straits of Malacca and Singapore each year, the problems of congestion in the Straits would be inevitable.

In advancing their submission in the IMO, the littoral States may contend that the proposed traffic limitation is critical to enhancing navigational safety by ensuring that the traffic in the Straits does not escalate to such a degree that it causes danger to mariners (Rusli, 2011). They may also contend that this protective measure does not contravene the LOSC as it provides that States have an overarching obligation to protect and preserve the marine environment.^{vi} If shipping traffic is not capped and it goes beyond the carrying capacity of the Straits, the marine environment of these waterways will ultimately suffer from undesirable consequences (H. Ibrahim & Shahryari, 2008).

5.2 The Potential Legal and Political Effects of the Implementation of the Proposed Traffic Limitation Scheme

In view of the critical nature of the Straits of Malacca and Singapore and the volume of shipping traffic passing through them, there is likely to be considerable controversy over the proposed plan to limit shipping traffic in the Straits (Rusli, 2010b). Firstly, nations that are against such a plan would contend that Malaysia, Indonesia and Singapore have breached the provisions of the LOSC which allows for the unimpeded navigational regime of transit passage in straits used for international navigation. Opposing States may argue that the littoral States have violated Articles 38(1) and 44 of the LOSC that prohibit States bordering straits from hampering transit passage. Secondly, they would assert that since the Straits of Malacca and Singapore are indispensable in regulating global trade, the imposition of the proposed traffic limitation scheme would not only impede passage, but it would also unreasonably increase shipping costs, as vessels and ships would have to sail through the longer Sunda, and Lombok-Makassar Straits via the Indonesian archipelago.

Although a proper study has yet to be conducted to determine the impacts of the introduction of the traffic limitation scheme in the Straits of Malacca and Singapore on freight rates, data from Table 2 shows that such an application would incur more expenses on the average operating costs of a VLCC and this would ultimately affect the global international trade that moves via the Straits.

Thirdly, opposing States could also contend that the co-operative mechanisms in both the Straits of Malacca and Singapore are doing well with more States besides Japan agreeing to share the burden of protecting and preserving the marine environment of both Straits.

When the Kuala Lumpur Meeting was convened, China and the US, to name a few, have expressed interest in participating in projects related to environmental protection and safety of navigation matters in the Straits. At the Singapore Meeting, Korea and the UAE announced that they would contribute to the fund. Germany also revealed its intention to find ways to contribute to the management of the marine environment of the Straits (Beckman, 2009). These developments show that as far as the Straits of Malacca and Singapore are concerned, this proposed traffic limitation scheme is likely to face political opposition and may not be the ultimate solution to the littoral States' environmental protection dilemma.

5.3 Possible Rebuttals by the Littoral States

The littoral States are, however, not lacking in arguments to rebut these potential criticisms and oppositions to the traffic limitation scheme plan (Rusli, 2010b). On the first issue, both States may assert that the imposition of the traffic limitation scheme in the Straits of Malacca and Singapore would not impede transit passage, but on the other hand would facilitate safe and environmentally responsible passage of the Straits. For narrow parts of the Straits that are burdened with high navigational traffic, over-flowing shipping traffic might pose danger to mariners and the marine environment of the Straits themselves. Like the compulsory pilotage regime in the Torres Strait, this proposed traffic limitation scheme may also be considered as a 'routing system' that ensures safe navigation for ships transiting the Straits of Malacca and Singapore.

It is a true assertion that cooperative mechanisms between the littoral States and the Users have gone through positive developments in recent years. Nevertheless, these developments have been moving rather slowly and have not kept pace with the increasing number of ships that transit the Straits of Malacca and Singapore each year. To date, Japan is the only User State that has consistently assisted the littoral States; the Nippon Foundation of Japan took the initiative to donate US\$2.5 million in 2008 and 2009 to the Aids to Navigation Fund (the Fund), which was set up in 2008 to deal with the Straits maintenance (Tharp, 2010). Based on details in Table 1, the 2009 budget for the Fund was US\$8 million but it has managed to raise only around US\$5.4 million, with US\$2.5 million coming from the Nippon Foundation (Bateman, 2009b). During the Symposium on the Enhancement of Safety of Navigation and the Environmental Protection of the Straits of Malacca and Singapore in 2007, the problem of lack of participation from users of the Straits other than Japan has been a matter of discussion (Basiron, 2007). This issue has been consistently raised resulting in a proposal that the littoral States consider lodging a complaint to the International Tribunal on the Law of the Sea citing the Users for violating Article 300 of LOSC^{vii} on good faith and abuse of rights (Basiron, 2007). As there has been little response from the users of the Straits, the Cooperative Mechanism cannot entirely be relied upon and consequently, the traffic limitation scheme may be seen by the littoral States particularly as a potential solution to further preserve and protect the marine environment of the Straits of Malacca and Singapore.

6. CONCLUSION

It is beyond doubt that the Straits of Malacca and Singapore are important waterways particularly for shipping activities. The continuing increase of shipping traffic each year has compromised the well-being of the marine environment of the Straits. Part III and Part XII of the LOSC have put the littoral States of Malaysia, Indonesia and Singapore in a disadvantaged position, where it favours shipping over protection of the marine environment of Straits. Given the gradual but ongoing increase of shipping traffic through the Straits of Malacca and Singapore in the future, it is submitted that the traffic limitation scheme under the proposed PSSA regime, should it be extended to the Straits of Malacca and Singapore, would be the best to govern the current and future traffic situations in the Straits. The littoral States may have to undertake in-depth researches on this matter as this measure may possibly impede the right of free transit of foreign vessels in the Straits.

It is likely that such a proposal for the introduction of a traffic limitation scheme in the Straits would be highly contentious given the strategic and economic importance of the Straits of Malacca and Singapore. Before such a scheme is introduced, it may be desirable for the littoral States and the maritime community to consider coming up with more viable alternatives to the Straits, namely through the realisations of the Thai Canal Project or the TPP Project as mentioned earlier. Once these projects are up and ready, the shipping scenario in the Straits would inevitably change; ships would still continue to sail the Straits but the number is expected not to be as high as what it is now. The traffic limitation scheme proposed under the proposed PSSA regime could then be more doable to realise if these alternatives are available. Until then, this proposed scheme may likely to remain highly contentious.

TABLES AND FIGURES

No.	Country/ Organisation	Year	Amount (USD)
1.	United Arab Emirates (UAE)	2009	100, 000.00
2.	Republic of Korea	2009	83, 532.00
3.	India	2009	774, 000.00
4.	Nippon Foundation	2009	2, 500, 000.00
5.	Middle East Navigation Aids Service (MENAS)	2009	1, 000, 000. 00
6.	Malacca Strait Council (MSC)	2009	500, 000.00
7.	International Maritime Organization (IMO)	2009	50, 000.00
TOTAL			5, 007, 532.00

Table 1: Donation Made to the Fund in 2009
(Source: Maritime Institute of Malaysia [MIMA])

Elements	Running Cost (US\$)
Manning, including victualling	892, 000.00
Lubes and stores	386, 000.00
Spares, R & M	263, 000.00
Drydocking (annualised cost)	688, 000.00
Insurance	582, 000.00
Administration	110, 000.00
Miscellaneous	65, 000.00
Total	2, 986, 000.00
Running costs per annum = US\$2,986, 000.00	
Capital costs per annum = US\$4, 825, 000.00 (Calculated on a 5% rate of return over 25 years on an initial cost of US\$68 million)	
Total operating cost per annum = US\$7, 811, 000.00	

Table 2. VLCC Operating Costs based on a vessel with a capital cost of US\$68 million and a life of 25 years.
Source: (Marlow & Gardner, 2006)

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ⁱ The Indian Ocean is separated from the China Seas by the Malay Peninsula, a strip of land that projects south from mainland Asia. Thus, ships have to ply through the Straits of Malacca and Singapore in order to travel between these two parts of the world. Therefore, there have been plans contemplated to construct a canal through the Isthmus of Kra, a narrow stretch of land on the Malay Peninsula so that vessels could escape the Straits of Malacca and Singapore, cutting 1,100 km of the normal voyage time from the Indian to the Pacific Oceans. This project has been scrapped off and revived again for several times, and the Thai government in 2007 has decided to move on with the project. See ("Thai Canal Frequently Asked Questions,").

ⁱⁱ In 2008, Malaysia has announced the TPP project, a project to erect oil pipelines from Yan, Kedah which is situated in the west coast of Peninsula Malaysia to Bachok, Kelantan, located on the shores facing the South China Sea. This project, once completed, may allow oil companies to transport oil through these pipelines, hence saving up to three days to the normal voyage around the Peninsula. See (Khalid, 2009).

ⁱⁱⁱ The littoral States can take appropriate enforcement measures against recalcitrant vessels that have violated regulations formulated under Article 42(1) (a) & 42 (1) (b) and this violation has caused or threatening to cause major damage towards the marine environment of the straits. This is further reiterated in Article 233 (Part XII) of the LOSC where it puts a requirement that States bordering straits shall have no power to stop the passage of a polluting vessel unless it has committed **major damage** to the marine environment of the straits.

^{iv} Article 38 of the LOSC provides that ‘...all ships and aircraft enjoy the right of transit passage, which shall **not be impeded**...’. Article 37 of the LOSC complements Article 38 by reiterating that transit passage can be exercised by all vessels and aircraft through straits used for international navigation that links one part of the high seas or an Exclusive Economic Zone (EEZ) to another part of high seas or an EEZ.

^v The Straits of Malacca and Singapore possess socio-economic importance, as they are significant in generating the sources of livelihood for coastal populations of Malaysia, Singapore and Indonesia through economic activities such as fishing and marine tourism, see (Hooi, 2008) and (Ishak & Hooi, 2008).

^{vi} Article 192 of the LOSC reads “States have the obligation to protect and preserve the marine environment”.

^{vii} Article 300 states that “State Parties shall fulfill in good faith the obligations assumed under this Convention and shall exercise the right, jurisdiction and freedoms recognised in this Convention in a manner which would not constitute an abuse of right.