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# Potential Implications of AUKUS and the Proposed Thai Canal on Crucial Sea Lines of Communication under the US Indo-Pacific Strategy

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Hazmi Rusli\* & Lowell B. Bautista\*\*

*Southeast Asia is home to the Straits of Malacca and Singapore, one of the world's most important sea lines of communication. The closure of the straits to international navigation may adversely affect the well-being of the global economy. On February 11, 2022, the Biden administration announced the new Indo-Pacific strategy, which will continue to deliver on AUKUS. For centuries, the proposed Thai Canal Project has been planned to revolutionize the shipping industry by bypassing the busy waters of the Straits of Malacca and Singapore. If the canal is built under the US Indo-Pacific Strategy, the pre-eminence of the Straits of Malacca and Singapore will not last long. This article analyzes the potential increase of navigation of nuclear-powered submarines through the Straits of Malacca and Singapore and its ensuing environmental implications from a viewpoint of international law. It discusses effects of the proposed canal plan in influencing the shipping industry should this "dream waterway" be constructed.*

## Keywords

Thai Canal Plan, AUKUS, US-Indo Pacific Strategy, Sea Lines of Communication, Transit Passage, Innocent Passage Regime, UNCLOS

\* Associate Professor at Faculty of Syariah and Law, Universiti Sains Islam Malaysia; Research Fellow, Australian National University; LL.B./LL.M. (IIUM, Malaysia), Ph.D. (Wollongong). ORCID: <http://orcid.org/0000-0003-0099-6875>. He may be contacted at: [hazmirusli@usim.edu.my](mailto:hazmirusli@usim.edu.my) / Address: USIM, Bandar Baru Nilai, 71800, Nilai, Negeri Sembilan Malaysia. This research is funded by a research grant awarded by the Department of Foreign Affairs and Trade (DFAT), Australia, under the mentorship of Professor Donald Rothwell of College of Law, Australian National University.

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\*\* Associate Professor at the School of Law and a Staff Member at the Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong. B.A. (U. Philippines), LL.M. (Dalhousie), Ph.D. (Wollongong). ORCID: <http://orcid.org/0000-0002-2156-7255>. He may be contacted at: [lowell\\_bautista@uow.edu.au](mailto:lowell_bautista@uow.edu.au) / Address: University of Wollongong, NSW 2522, Australia.

# 1. Introduction

On February 11, 2022, the Biden administration announced the US Indo-Pacific Strategy.<sup>1</sup> Under this strategy, the US Government would pursue an Indo-Pacific region that is free and open, connected, prosperous, secure, and resilient.<sup>2</sup> The strategy does state that it will continue to deliver on AUKUS,<sup>3</sup> the tripartite security alliance between Australia, the United Kingdom, and the US, which would enable Australia to possess its own nuclear-powered submarines by 2040.<sup>4</sup>

The US Indo-Pacific Strategy envisions ‘Indo-Pacific’ region that is prosperous through investments in encouraging innovation, strengthening economic competitiveness, and rebuilding supply chains. This includes deepening the regional alliance treaty with Thailand. Unlike AUKUS, the US Indo-Pacific Strategy does not clearly mention whether investments would be made in improving maritime connectivity infrastructures across Southeast Asia. Nevertheless, the strategy definitely refers to its vision to strengthen economic competitiveness and rebuild supply chains.<sup>5</sup>

Assuming that the US Government, through this strategy, intends to invest in the long-overdue Thai Canal Plan, the shipping industry across the region will change, affecting traffic flow along the Straits of Malacca and Singapore. This article will examine the international legal implications of the US Indo-Pacific Strategy on the region based on the purview of AUKUS and the proposed Thai Canal Project from a viewpoint of international law. This paper is composed of four parts including Introduction and Conclusion. Part two discusses the strategic position of the Straits of Malacca and Singapore. Part three examines the proposed Thai Canal Plan.

<sup>1</sup> James Wallar, Comments on the U.S. Government’s Indo-Pacific Strategy Paper: Non-security aspects (CSIS, 2022), <https://www.csis.org/analysis/comments-us-governments-indo-pacific-strategy-paper-non-security-aspects>.

<sup>2</sup> The White House, FACT SHEET: Indo-Pacific Strategy of the United States (2022), <http://www.whitehouse.gov/briefing-room/speeches-remarks/2022/02/11/fact-sheet-indo-pacific-strategy-of-the-united-states>.

<sup>3</sup> Jan Hendrik, AUKUS Trilateral Meeting and the US Indo-Pacific Strategy (Warsaw Institute, 2022), <https://warsawinstitute.org/aukus-trilateral-meeting-us-indo-pacific-strategy>. AUKUS is a new trilateral partnership established in 2021 between Australia, the United Kingdom and the United States. One of the initiatives of AUKUS is to prepare Australia with the technology of constructing nuclear-powered submarines to strengthen Canberra’s ability to deter major power aggression and threats to Australian interests in the Indo-Pacific.

<sup>4</sup> Hazmi Rusli, *Are Nuclear-Powered Submarines a Problem in Southeast Asia?*, POL’Y F. (May 27, 2022), <http://www.policyforum.net/are-nuclear-powered-submarines-a-problem-in-southeast-asia>.

<sup>5</sup> *Supra* note 2.

## 2. Strategic Position of the Straits of Malacca and Singapore

For centuries, the Straits of Malacca and Singapore have been part of a significant maritime chokepoints in Southeast Asia. More than 200 vessels pass the Straits of Malacca and Singapore daily, transporting approximately 15-16 million barrels of crude oil.<sup>6</sup> The Straits of Malacca and Singapore route remains the primary maritime highway linking the Indian Ocean and the Pacific Ocean, despite the existence of other routes through the Indonesian archipelago.<sup>7</sup>

Thousands of vessels traverse the Straits of Malacca and Singapore each year, including Japanese vessels transporting hazardous nuclear waste bound for reprocessing facilities in Europe<sup>8</sup> and fleets of nuclear-powered submarines flying flags representing the world's superpower nations.<sup>9</sup> Any disruptions to these important shipping passages would adversely affect the well-being of the global economy.<sup>10</sup>

When a ship merely navigates through the territorial sea of a state without entering any of its ports, The coastal state has jurisdiction over its territorial sea, which is subject to the right of innocent passage,<sup>11</sup> in which the coastal state has the power to regulate but not to control.<sup>12</sup> The right of innocent passage is considered customary international law, as reflected in the *Corfu Channel Case* (U.K. v. Albania).<sup>13</sup> In this case, the International Court of Justice (ICJ) held that navigation of warships in times of peace through straits used for international navigation connecting two parts of the high seas without previous authorization of the coastal state, provided the passage is innocent, is permissible.<sup>14</sup> The powers of a coastal state to take action

<sup>6</sup> Jagan Jeevan et al., *Thai Canal and Malacca Straits: Complementing or Competing Strategem for Trade Development in South East Asia*, 3 J. SUSTAIN. DEV. TRANS. LOGIST. 34-48 (2018).

<sup>7</sup> Hanizah Idris & Muhammad Ramli, *Southeast Asian Region Maritime Connectivity and the Potential Development of the Northern Sea Route for Commercial Shipping*, 23 J. S.E. ASIAN STUD. 25-46 (2018).

<sup>8</sup> *Malaysia Bans Ship Carrying Nuclear Waste to Japan*, REUTERS (Jan. 15, 1997), <http://www.nci.org/c/cs-malay.htm>.

<sup>9</sup> Zia Mian et al., *Nuclear Submarines in South Asia: New Risks and Dangers*, 2 J. PEACE & NUCLEAR DISARMAMENT 184-02 (2019).

<sup>10</sup> Hazmi Rusli, *Is It Too Little Too Late to Protect the Strait of Malacca?*, STRAITS TIMES (Feb. 25, 2022), <http://www.straitstimes.com/asia/se-asia/is-it-too-little-too-late-to-protect-the-strait-of-malacca-jakarta-post-contributor>.

<sup>11</sup> See generally ANA MARTIN & ANA LOPEZ, INTERNATIONAL STRAITS: CONCEPT, CLASSIFICATION AND RULES OF PASSAGE (2010).

<sup>12</sup> Alan Boyle, *Marine Pollution under the Law of the Sea Convention*, 79 AM. J. INT'L. L. 357-62 (1985).

<sup>13</sup> William Bishop, *The Corfu Channel Case (Merits)*, 43 AM. J. INT'L. L. 561-2 (1949).

<sup>14</sup> This ruling is now embedded in United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397 [hereinafter UNCLOS], art. 17, which reads "ships of all States, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea."

against recalcitrant vessels are subject to the jurisdictional balance, which, on the basis of international law, leans heavily in favor of navigational interests.<sup>15</sup>

Under the United Nations Convention on the Law of the Sea 1982 (UNCLOS), the innocent passage regime can be temporarily suspended by coastal states.<sup>16</sup> Therefore, states bordering straits possess limited powers because they have no legal right under international law to impede navigation via the transit passage regime.<sup>17</sup> Submarines are not required to surface while exercising transit passage as prescribed by the UNCLOS.<sup>18</sup>

Malaysia and Indonesia have expressed concern regarding AUKUS, which was announced in September 2021.<sup>19</sup> AUKUS makes it possible for Australia to eventually construct at least eight nuclear-powered submarines for the next two decades.<sup>20</sup> Australia has reiterated that the development of its nuclear-powered submarines program is within the ambit of international law.<sup>21</sup> It maintains developing nuclear-powered submarines is not in any way similar to developing nuclear weapons.<sup>22</sup> This means that apart from the existing nuclear-powered submarines already navigating the Straits of Malacca and Singapore, Australia's nuclear-powered submarines are anticipated to begin navigating these straits by 2040. For a clearer picture, Table 1 presents a summary of the types of vessels that navigated the Straits of Malacca and Singapore in 2009-17.

<sup>15</sup> Boyle, *supra* note 12, at 357.

<sup>16</sup> UNCLOS art. 25(3). It stipulates that a coastal state may temporarily suspend passage of vessels through its territorial sea if such suspension is essential for the protection of its security.

<sup>17</sup> UNCLOS art. 44. It clearly mentions that there shall be no suspension of transit passage.

<sup>18</sup> *Id.* arts. 39(1)(c) & 54. The rule that submarines could continue navigating via normal mode without having to surface when exercising the right of transit passage as expounded by the UNCLOS has also been reaffirmed through academic writings. See YOSHIFUMI TANAKA, *THE INTERNATIONAL LAW OF THE SEA* 103 (2012); John Noyes, *The Territorial Sea and Contiguous Zone*, in *THE OXFORD HANDBOOK OF THE LAW OF THE SEA* 93-4 (Donald Rothwell et al. eds., 2015).

<sup>19</sup> Hazmi Rusli & Izyan Munirah Mohd Zaideen, *AUKUS and Malaysia: Cats on Hot Bricks?*, *NEW STRAITS TIMES* (Oct. 8, 2021), <http://www.nst.com.my/opinion/columnists/2021/10/734789/aucus-and-malaysia-cats-hot-bricks>.

<sup>20</sup> Matt Coughlan, *Australia in Deal for Nuclear Submarines*, *CANBERRA TIMES* (Sept. 16, 2021), <http://www.canberratimes.com.au/story/7432533/australia-in-deal-for-nuclear-submarines>.

<sup>21</sup> Ryan Musto, *Does AUKUS Violate the Pledge of a Nuclear-Free South Pacific? China Thinks It Might*, *DIPLOMAT* (Oct. 22, 2021), <https://thediplomat.com/2021/10/does-aucus-violate-the-pledge-of-a-nuclear-free-south-pacific-china-thinks-it-might>.

<sup>22</sup> Julian Kerr, *Australian Nuclear Sub Decision Driven by Technology and Chinese Assertiveness*, *JANES* (Sept. 22, 2021), <http://www.janes.com/defence-news/news-detail/australian-nuclear-sub-decision-driven-by-technology-and-chinese-assertiveness>.

Table 1: Distribution of Vessels Passing One Fathom Bank in the Strait of Malacca<sup>23</sup>

Vessel Type	Year								
	2009	2010	2011	2012	2013	2014	2015	2016	2017
VLCC/deep draft CR	2,027	3,163	3,303	3,301	3,487	3,477	3,788	3,851	3,753
Tanker vessel	11,474	13,343	14,726	14,591	15,667	16,403	14,759	14,784	14,931
LNG/LPG carrier	2,473	2,962	3,086	3,141	3,277	3,343	3,099	3,297	3,413
Cargo vessel	5,674	6,603	6,476	6,065	6,193	6,624	6,340	6,477	8,467
Container vessel	14,521	18,238	20,101	20,091	19,575	20,187	20,818	22,615	23,736
Bulk carrier	3,438	4,708	5,370	5,754	6,256	6,531	7,394	8,129	9,684
RORO/car carrier	1,129	1,761	1,764	1,980	2,182	2,440	2,515	2,863	3,137
Passenger vessel	1,919	3,301	3,151	3,490	3,033	2,338	2,299	2,009	1,870
Livestock carrier	42	70	108	108	80	46	45	51	51
Tug/tow vessel	566	774	610	422	478	568	420	372	444
<b>Gov/navy vessel</b>	<b>93</b>	<b>117</b>	<b>155</b>	<b>111</b>	<b>120</b>	<b>130</b>	<b>153</b>	<b>81</b>	<b>95</b>
Fishing vessel	52	44	60	38	35	67	34	39	36
Others	457	828	854	942	1,951	982	957	1,081	1,101
<b>Total</b>	<b>43,965</b>	<b>55,912</b>	<b>59,314</b>	<b>60,034</b>	<b>62,334</b>	<b>63,136</b>	<b>62,621</b>	<b>65,649</b>	<b>70,718</b>

Source: Marine Department of Malaysia.

Table 1 demonstrates that on average, the Strait of Malacca is navigated by 100 government or naval vessels each year, which may include nuclear-powered

<sup>23</sup> Noraini Zulkifli et al., *Maritime Cooperation in the Straits of Malacca (2016-2020): Challenges and Recommend for a New Framework*, 2(2) *ASIAN J. RES. EDU. & SOC. SCI.* 13, Table 1.1 (2020), <https://myjms.mohe.gov.my/index.php/ajress/article/view/9601/4470>.

submarines flying Indian,<sup>24</sup> Chinese,<sup>25</sup> or US flags,<sup>26</sup> as well as flags of other nations.<sup>27</sup>

As the unimpeded regime of transit passage applies to the Straits of Malacca and Singapore, it is not surprising that Malaysia and Indonesia are somewhat apprehensive about potential maritime threats posed by AUKUS.<sup>28</sup> Putrajaya re-echoed its concerns over AUKUS to Canberra when Australia's foreign minister, Penny Wong, visited Malaysia in July 2022.<sup>29</sup>

Transit passage regime under the UNCLOS requires that Malaysia and Indonesia allow the territorial sea within the Straits of Malacca and Singapore to be open for international navigation. This obligation includes passage for both vessels carrying hazardous nuclear substances, and nuclear-powered submarines that could not be hampered with or impaired.<sup>30</sup> Therefore, it is crucial to consider whether such navigation could compromise the security of Malaysia and Indonesia and whether it could be deleterious to the well-being of the marine environment of the Straits of Malacca and Singapore.<sup>31</sup>

International law grants foreign vessels the right to unimpeded transit passage through the Straits of Malacca and Singapore.<sup>32</sup> However, states bordering straits should be equipped with sufficient measures to ensure their respective maritime territories will not suffer catastrophic repercussions in the unlikely event of leakage of radioactive substances as a result of scuttling or maritime accidents involving nuclear-powered military vessels.

<sup>24</sup> Manu Pubby, *Indian Navy's Lone Nuclear Attack Submarine Heading Back to Russia Next One to Take Five Years*, ECON. TIMES (June, 4, 2021), [http://www.defenseworld.net/news/29732/Nuclear\\_Submarine\\_INS\\_Chakra\\_Spotted\\_in\\_Straits\\_of\\_Malacca\\_Escorted\\_by\\_Russian\\_Naval\\_Ships#.YeoQanpBzIU](http://www.defenseworld.net/news/29732/Nuclear_Submarine_INS_Chakra_Spotted_in_Straits_of_Malacca_Escorted_by_Russian_Naval_Ships#.YeoQanpBzIU).

<sup>25</sup> Rob Taylor, *China's Submarines Add Nuclear-Strike Capability, Altering Strategic Balance*, WALL ST. J (Oct. 24, 2014), <http://www.wsj.com/articles/chinas-submarine-fleet-adds-nuclear-strike-capability-altering-strategic-balance-undersea-1414164738>.

<sup>26</sup> Rusli, *supra* note 4.

<sup>27</sup> Mian et al., *supra* note 9.

<sup>28</sup> William Choong & Ian Storey, *Southeast Asian Responses to AUKUS: Arms Racing, Non-Proliferation and Regional Stability*, 134 ISEAS (2021), <http://www.iseas.edu.sg/articles-commentaries/iseas-perspective/2021-134-southeast-asian-responses-to-aukus-arms-racing-non-proliferation-and-regional-stability-by-william-choong-and-ian-storey>.

<sup>29</sup> Katharine Murphy, *Malaysian Foreign Minister Says Concerns Remain about AUKUS Pact after Meeting with Penny Wong*, GUARDIAN (June 28, 2022), <http://www.theguardian.com/world/2022/jun/28/malaysian-foreign-minister-says-concerns-remain-about-aukus-pact-after-meeting-with-penny-wong>.

<sup>30</sup> UNCLOS art. 44. It stipulates that: "States bordering straits shall not hamper transit passage ... There shall be no suspension of transit passage."

<sup>31</sup> Masha Menhat et al., *The Impact of COVID-19 Pandemic: A Review on Maritime Sectors in Malaysia*, 209 OCEAN & COASTAL MGMT. (2021).

<sup>32</sup> Hazmi Rusli, *Asia's Busy Straits Must Not Become the Playground of Superpower Navies*, S. CHINA MORNING POST (May 25, 2022), <http://www.scmp.com/comment/letters/article/3178546/asias-busy-straits-must-not-become-playground-superpower-navies>.

## A. Nuclear-Powered Submarines

A nuclear submarine is an underwater vessel powered by a nuclear reactor, but not necessarily nuclear armed,<sup>33</sup> which is technologically superior over conventional diesel-electric submarines.<sup>34</sup> Nuclear-powered submarines can operate at high speed for long unlimited periods without the constant need to refuel, thus limiting their detection by adversaries.<sup>35</sup> In 1955, *USS Nautilus* was the first nuclear-powered submarine to navigate the oceans. The US and the then Soviets constructed no fewer than 400 nuclear-powered submarines during the height of the Cold War.<sup>36</sup> As reported by JANES, the following nations possess nuclear-powered submarines: the UK, France, China, Russia, India,<sup>37</sup> and the US.<sup>38</sup> In addition, nuclear-powered shipbuilding programs comprised more than 50% of the shipbuilding account in the US Navy fiscal year 2023 budget request.<sup>39</sup> As of 2021, China had 12 nuclear-powered submarines, Russia 29, the UK 11, France 8, and India 1.<sup>40</sup> The US military tops the chart, with a fleet of more than 68 nuclear-powered submarines. Several other countries, such as Australia, Argentina, and Brazil, have ongoing projects in different phases to construct nuclear-powered submarines.

## B. Repercussions of Radioactive Pollution

An academic report written by Vartanov and Hollister published in 1997 indicated that a number of nuclear weapons and fully fueled nuclear reactors were still lying on the ocean floor.<sup>41</sup> However, subsequent studies have shown no evidence of

<sup>33</sup> Frank von Hippel, *Mitigating the Threat of Nuclear-Weapon Proliferation via Nuclear-Submarine Programs*, 2 J. PEACE & NUCLEAR DISARMAMENT 133-50 (2019).

<sup>34</sup> Lukas Trakimavičius, *The Future Role of Nuclear Propulsion in the Military*, ENERGY HIGHLIGHTS 2-17 (NATO Energy Security Center of Excellence, 2021), [https://enseccoe.org/data/public/uploads/2021/10/d1\\_the-future-role-of-nuclear-propulsion-in-the-military.pdf](https://enseccoe.org/data/public/uploads/2021/10/d1_the-future-role-of-nuclear-propulsion-in-the-military.pdf).

<sup>35</sup> James Campbell, *Seoul's Misguided Desire for a Nuclear Submarine*, 74 NAVAL WAR C. REV. 53-77 (2021).

<sup>36</sup> Alec Luhn, *Russia's 'Slow-Motion Chernobyl' at Sea*, BBC NEWS (Dec. 30, 2019), <https://www.nytimes.com/2019/12/30/world/americas/mexico-environment-trade.html>.

<sup>37</sup> Rahul Bedi, *India to Approve Plans for Six-Boat Nuclear Submarine Fleet*, JANES (Nov. 29, 2021), <http://www.janes.com/defence-news/news-detail/india-to-approve-plans-for-six-boat-nuclear-submarine-fleet>.

<sup>38</sup> Kerr, *supra* note 22.

<sup>39</sup> Michael Fabey, *Pentagon Budget 2023: US Navy Nuclear-Powered Fleet Drives Ship Procurement Costs*, JANES (Mar. 29, 2022), <http://www.janes.com/defence-news/news-detail/pentagon-budget-2023-us-navy-nuclear-powered-fleet-drives-ship-procurement-costs>.

<sup>40</sup> Data extracted from *The Military Balance 2021*, International Institute for Strategic Studies. See Mohammed Haddad, *Infographic: Are Nuclear Submarines Better?*, AL-JAZEERA (Sept. 21, 2021), <https://www.aljazeera.com/news/2021/9/21/infographic-how-many-submarines-does-each-country-have-interactive>.

<sup>41</sup> Raphael Vartanov & Charles Hollister, *Nuclear Legacy of the Cold War: Russian Policy and Ocean Disposal*, 21 MAR. POL'Y 1-15 (1997).

radioactive contamination measurable on the seabed. In addition, no radioactive materials above the legal limits measured in organisms have been captured on and around this point source of high-level radioactive material.

Nevertheless, these studies may be obsolete because recent findings have observed otherwise.<sup>42</sup> For example, a joint Russian-Norwegian study on K-278, a Soviet nuclear-powered submarine that sank to the bottom of the Norwegian Sea in 1989 after it caught fire, was conducted in 2019. This scientific expedition revealed that K-278 was leaking radiation up to 800,000 times normal levels.

International collaborations have been sought to salvage sunken nuclear-powered submarines.<sup>43</sup> Rusting at the seabed, these sunken submarines will pollute the marine environment. These vessels contain significant amount of spent nuclear fuel or radioactive waste that will eventually leak into the surrounding area and adversely affect the marine environment. Radioactive waste is more hazardous than other waste because it emits dangerous radiation. These materials can remain radioactive and detrimental to human health for an indefinite period.<sup>44</sup> Furthermore, radioactive pollution may potentially cause adverse effects in various areas, including global fish migration, pelagic fisheries, human health, and ecological security.

Thus far, there have been nine incidents of sunken nuclear submarines worldwide, by either accident or scuttling. The Soviet and Russian navies have lost five and two nuclear-powered submarines, respectively. The US Navy has lost two, as well.<sup>45</sup> All sank in the Atlantic and Arctic Oceans. However, none of these incidents have taken place within Southeast Asian waters. These sunken nuclear submarines may pose threats to the marine environment by leaking radiation into the sea.<sup>46</sup> In addition, the recent incident involving a US nuclear-powered submarine crashing an undersea mountain in the South China Sea has raised fears about potential maritime accidents, or worse, a nuclear meltdown.<sup>47</sup>

<sup>42</sup> *Russia to Measure Radioactivity at Sunk Nuclear Sub*, MOSCOW TIMES (May 19, 2021), <http://www.themoscowtimes.com/2021/05/19/russia-to-measure-radioactivity-at-sunk-nuclear-sub-a73949>.

<sup>43</sup> S.V. Antipov & N.S. Koroleva, *International Collaboration on Salvaging Nuclear-Powered Submarines*, ATOMIC ENERGY 796-801 (2004), <https://link.springer.com/article/10.1007/s10512-004-0011-7>.

<sup>44</sup> World Nuclear Association, *Radioactive Waste-Myths and Realities* (2022), <https://world-nuclear.org/information-library/nuclear-fuel-cycle/nuclear-wastes/radioactive-wastes-myths-and-realities.aspx>.

<sup>45</sup> Dorian Archus, *How Many Nuclear Submarines Have Been Sunk?*, NAVAL POST (Apr. 26, 2020), <https://navalpost.com/how-many-nuclear-submarines-have-been-sunk>.

<sup>46</sup> James Rogers, *Sunken Nuclear Submarine Leaking Radiation into Sea up to 800,000 Times Normal Level*, N.Y. POST (July 11, 2019), <https://nypost.com/2019/07/11/sunken-nuclear-submarine-leaking-radiation-into-sea-up-to-800000-times-normal-level>.

<sup>47</sup> Brad Lendon, *How Did a \$3 Billion US Navy Submarine Hit an Undersea Mountain?*, CNN (Nov. 4, 2021), <https://edition.cnn.com/2021/11/04/asia/submarine-uss-connecticut-accident-undersea-mountain-hnk-intl-ml-dst/index.html>.

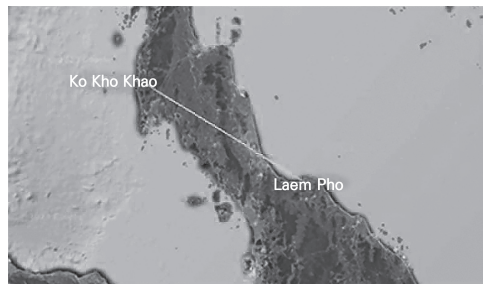


SOUTH CHINA MORNING POST reported that the alleged “undersea mountain” was in fact an abandoned oil rig, one of those dotted all across the South China Sea.<sup>48</sup> Needless to say, this recent development and fears about future events that could lead to nuclear waste leaking into seas must be considered seriously. As long as special regulatory measures are not implemented in empowering states bordering straits in relation to navigation of nuclear-powered submarines, such as Malaysia and Indonesia within the region would possess valid reasons to express uneasiness in regard to the implementation of AUKUS, which is one of the main aspirations of the US Indo-Pacific Strategy.

### 3. The Thai Canal Plan

Since ancient times, the Malay Peninsula has been perceived as a barrier for traders to gain direct access from the Indian Ocean to the Chinese Seas, or vice versa.<sup>49</sup> Early traders could either navigate the Strait of Malacca or travel via the trans-peninsular route located within the territory of the old Malay Kingdom of Kedah.<sup>50</sup> Traders had to sail the Indian Ocean to Ko Kho Khao, located on the west coast of the Malay Peninsula, and travel inland toward Laem Pho in the east to access the Gulf of Siam.<sup>51</sup>

Map 1: Indian Ocean to Ko Kho Khao via inland route towards Laem Pho in the Gulf of Siam<sup>52</sup>



<sup>48</sup> Kristin Huang, *US Nuclear Sub “May Have Hit an Oil Rig” in South China Sea*, S. CHINA MORNING POST (Nov. 13, 2021), <http://www.scmp.com/news/china/military/article/3155777/us-nuclear-sub-may-have-hit-oil-rig-south-china-sea>.

<sup>49</sup> See generally MICHEL JACQ-HERGOUALC’H, *THE MALAY PENINSULA: CROSSROADS OF THE MARITIME SILK ROAD (100 BC–1300 AD)* (2002).

<sup>50</sup> Jan Wisseman Christie, *Trade and Early State Formation in Maritime Southeast Asia: Kedah and Srivijaya*, 13 *JEBAT* 43–56 (1984).

<sup>51</sup> LEONARD Y. ANDAYA, *LEAVES OF THE SAME TREE: TRADE AND ETHNICITY IN THE STRAITS OF MELAKA* 39–40 (2008).

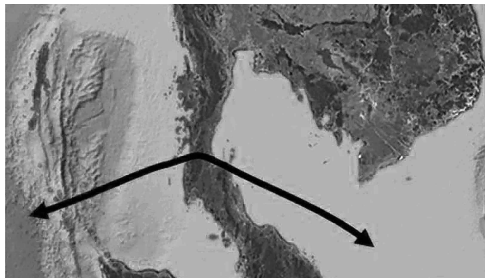
<sup>52</sup> Compiled by the author from Google map..

Both of these settlements are now within the modern-day territory of Thailand. This indicates that the effort to discover the easiest route linking the East and the West without having to sail down the Straits of Malacca and Singapore has a very long history.

Chinese investors have shown interest in constructing this canal in recent.<sup>53</sup> However, the project did not eventuate. The US Indo-Pacific Strategy may place this project in the limelight again because the canal is viewed as a catalyst that could transform the shipping industry in the region by shortening navigational distance without having to go around the Malay Peninsula via the Straits of Malacca and Singapore. There have been reports that India, the US, and Australia have shown interest in building a maritime canal across the Isthmus of Kra in Thailand.<sup>54</sup>

In the sixteenth century, King Narai of Siam envisaged a plan to construct a canal cutting through the narrow Isthmus of Kra to shorten voyage durations by escaping the normal routes via the Straits of Malacca and Singapore.<sup>55</sup> This plan has been mooted and scrapped several times. The Thai Canal Project has been contemplated for hundreds of years, since as early as the seventeenth century.<sup>56</sup>

Map 2: The Location of the proposed Thai Canal Project in Southeast Asia<sup>57</sup>



<sup>53</sup> *Big Blow to China as Thailand Scraps Kra Canal Project*, WION (Sept. 4, 2020), <http://www.wionews.com/world/big-blow-to-china-as-thailand-scraps-kra-canal-project-325142>.

<sup>54</sup> *India, US, Australia Interested in Building China's Dream Kra Canal Project in Thailand: Report*, TIMES OF INDIA (Sept. 18, 2020), <https://timesofindia.indiatimes.com/world/rest-of-world/india-us-australia-interested-in-building-chinas-dream-kra-canal-project-in-thailand-report/articleshow/78180903.cms>.

<sup>55</sup> Alan Dawson, *Kra me a river*, BANGKOK POST (Sept. 17, 2017), <http://www.bangkokpost.com/opinion/opinion/1325803/kra-me-a-river>.

<sup>56</sup> Phan Van Hung, *Potential Effects of the Kra Canal on Vietnam's Maritime Industry*, 14 TRANSPOR. RES. INTERDIS. PERSP. (2022).

<sup>57</sup> Compiled by the author from Google map.

## A. The Development of the Proposed Thai Canal Plan

Initially, in 1993, the Thai Government approved a project to construct a land bridge consisting of a highway, railway, and oil pipeline from Krabi to Khanom.<sup>58</sup> In contrast to the design of Thai Canal Plan, this proposed land bridge would not require any physical land division. The proposed land bridge, once in operation, would link the Andaman Sea with the Gulf of Thailand, shortening the journey from the Middle East to East Asia. Although this project was planned, it has now been completely suspended for environmental reasons.<sup>59</sup> A further project is the Isthmus of Kra Canal Plan, now known as the Thai Canal Plan, an unfulfilled legacy that dates back to the time of ancient Siam.

The canal plan continued to be mooted in modern-day Thailand in the early 1970s, 1990s, and 2000s.<sup>60</sup> It has been re-activated and scrapped several times for various political, economic, and security reasons.<sup>61</sup> Bangkok feared that the canal would physically isolate the five Southern Muslim majority districts and thereby fuel secessionism, an unacceptable situation for Thai authorities.<sup>62</sup> If Thailand actually becomes physically divided by the Thai Canal, it may have adverse effects on the political situation between the separatists and the central government in Bangkok.<sup>63</sup> Currently, the future of the proposed construction of the Thai Canal remains uncertain.<sup>64</sup> Nevertheless, assuming the project eventuates, it is crucial to analyze its features and consider how it would change shipping scenarios in Southeast Asia.

The canal, measuring approximately 31 miles long across the Kra Isthmus, was estimated to cost around USD 20 billion.<sup>65</sup> The proposed canal would be about 82 feet deep and 1,312 feet wide.<sup>66</sup> The funding of such a project is intended to come from

<sup>58</sup> Rajes Thapa et al., *Sea Navigation, Challenges and Potentials in South East Asia: An Assessment of Suitable Sites for a Shipping Canal in the South Thai Isthmus*, 70 GEOJOURNAL 161–4 (2007).

<sup>59</sup> *Id.*

<sup>60</sup> *Id.* at 65.

<sup>61</sup> Pithaya Pookaman, *Thailand's Kra Canal: Economic and Geopolitical Implications*, ASIA SENTINEL (July 18, 2018), <http://www.asiasentinel.com/p/thailand-kra-canal-economic-geopolitical-implications>.

<sup>62</sup> Julien Levesque, *Bypassing the Malacca Straits* (Institute of Peace and Conflict Studies, 2008), [http://www.ipcs.org/comm\\_select.php?articleNo=2561](http://www.ipcs.org/comm_select.php?articleNo=2561).

<sup>63</sup> Salvatore Babones, *The Next Front in the India-China Conflict Could Be a Thai Canal*, FOREIGN POL'Y (Sep. 1, 2020), <https://foreignpolicy.com/2020/09/01/china-india-conflict-thai-kra-canal>.

<sup>64</sup> Ian Storey, *Thailand's Perennial Kra Canal Project: Pros, Cons and Potential Game Changers*, ISEAS 1–8 (2019), [http://www.iseas.edu.sg/images/pdf/ISEAS\\_Perspective\\_2019\\_76.pdf](http://www.iseas.edu.sg/images/pdf/ISEAS_Perspective_2019_76.pdf).

<sup>65</sup> Rini Suryati Sulong, *The Kra Canal and Southeast Asian relations*, 31 J. CURRENT S.E. ASIAN AFF. 31 (2012), <https://journals.sagepub.com/doi/10.1177/186810341203100405>.

<sup>66</sup> Shannon Tiezzi, *No, China Isn't Building a Game-Changing Canal in Thailand (Yet)*, DIPLOMAT (Nov. 21, 2015), <https://thediplomat.com/2015/05/no-china-isnt-building-a-game-changing-canal-in-thailand-yet>.

maritime nations such as Japan, China, the US, and other interested states, such as Malaysia and Indonesia.<sup>67</sup> However, the main financial contributor would be the Thai government itself.<sup>68</sup> The position of the canal line has been proposed and modified several times.

Twelve potential canal lines seem feasible, which would be selected by factors such as environmental and societal impacts, engineering feasibility, and by economic and security factors. Among the 12 options, the 75-mile A9 route is regarded as the most feasible path, cutting through the provinces of Krabi, Phatthalung, Nakhon Si Thammarat, Songkhla, and Trang.<sup>69</sup> These areas of Thailand are sparsely populated and far from the Malaysian and Burmese borders.

## B. The Advantages and Disadvantages of the Proposed Thai Canal Plan

The proposed Thai Canal is wide enough to accommodate two ships and requires a construction period of around 5–10 years.<sup>70</sup> It would allow ships to move between Europe, the Middle East, India, and China without passing through the already busy and constricted Straits of Malacca and Singapore.<sup>71</sup> The project is anticipated to employ a work force of 30,000 people if it eventuates.<sup>72</sup>

Once ready, the canal would be able to shorten navigational distance throughout Southeast Asia by 1,200 nautical miles, reducing maritime voyages by 2–5 days.<sup>73</sup> This would stimulate economic growth, bringing prosperity across the region; effectively rebuilding supply chains;<sup>74</sup> and coinciding with the vision of the US Indo-Pacific Strategy.

The proposed canal may alleviate the massive traffic flowing through the chokepoints of the Straits of Malacca and Singapore. In addition, remote and less-

<sup>67</sup> Hazmi Rusli, *Proposed Thai Canal Project: Between Myth and Reality*, MALAY MAIL ONLINE (June 28, 2013), <http://www.malaymail.com/news/what-you-think/2013/06/28/proposed-thai-canal-project-between-myth-and-reality-mohd-hazmi-mohd-rusli/488301>.

<sup>68</sup> Hazmi Rusli & Rahmat Mohamad, *Terusan Kra: Apa Nasib Selat Melaka*, UTUSAN MALAY. (June 22, 2015), <http://ddms.usim.edu.my/bitstream/123456789/8544/1/22.6.2015 - Rencana %2811%29.pdf>.

<sup>69</sup> Payan Eumsin, *The Formation of “the Thai Canal Policy 9A Route (Modern Kra Canal)”*: *Indian Ocean Transportation System For Peace, through Thai Sea and towards China-Japan Sea*, 21 AJAC 1-16 (2021).

<sup>70</sup> International Institute of Marine Surveying, *The Kra-Canal Project* (2015), <http://www.iims.org.uk/kra-canal-project>.

<sup>71</sup> Hazmi Rusli et al., *Linking the East and the West: Discovering Alternatives to the Straits of Malacca and Singapore*, in PORT, MARITIME AND HINTERLAND DEVELOPMENT IN SOUTHEAST ASIA 103–44 (Muhammad Subhan et al. eds., 2014).

<sup>72</sup> Yasumasa Shimizu, *Calls for Kra Isthmus Shortcut Grow in Thailand*, NIKKEI ASIA (Dec. 2, 2015), <https://asia.nikkei.com/Politics/Calls-for-Kra-Isthmus-shortcut-grow-in-Thailand>.

<sup>73</sup> *Supra* note 70.

<sup>74</sup> Jeevan et al., *supra* note 6, at 44–5.

developed areas of northern Sumatra, northern states of Peninsular Malaysia, and southern provinces of Thailand (which are located not far from the canal) could be developed as shipping ports and hubs of the region.<sup>75</sup> Fewer shipping traffic may probably reduce the risks of piracy and other maritime crime in the Straits of Malacca and Singapore.<sup>76</sup>

Nevertheless, there are also arguments that unlike the Panama Canal, which shaved weeks off maritime voyages without having to go around Tierra Del Fuego at the southernmost tip of the South American continent, the amount of money spent on the Thai Canal Plan would not bring considerable returns. In addition to this financial consideration, it is unclear whether shipowners would contemplate to using the Thai Canal, hence reducing maritime traffic volume in the Straits of Malacca and Singapore. This is because the proposed canal shortens maritime voyages only by two to three days.<sup>77</sup>

According to Article 37 of the UNCLOS, the transit passage regime is only applicable to straits used for international navigation. The Thai Canal is a maritime canal and, by definition, not a strait used for international navigation, as defined in Part III of the UNCLOS. Therefore, vessels sailing from Europe to East Asia would have to pay double transit dues if they chose not to traverse the Straits of Malacca and Singapore. No doubt, navigation via both the Suez and Thai Canals would attract transit fees. Because guaranteed access provided by the transit passage regime does not apply to shipping traffic using the Thai Canal, the transit of ships via the canal could be suspended, subject to the laws of Thailand.

Regardless of these shortcomings, once open for navigation, the Thai Canal would represent a quantum leap for the shipping industry, as its other counterparts, the Suez and the Panama Canals, did when they were constructed. Nevertheless, there are still concerns about danger of maritime accidents, monopoly issues and serious traffic congestions.

### C. Other Maritime Canals

The Suez Canal was envisioned by the Egyptians and Romans but was only completed in the nineteenth century, centuries after the fall of both empires.<sup>78</sup> It

<sup>75</sup> Rusli, *supra* note 67.

<sup>76</sup> Shaun Cameron, *By Land or Sea: Thailand Perseveres with the Kra Canal*, INTERPRETER (Sept. 25, 2021), <http://www.lowyinstitute.org/the-interpreter/land-or-sea-thailand-perseveres-kra-canal>.

<sup>77</sup> James Clark, *The Thai Canal-The Proposed Canal across the Isthmus of Kra in Southern Thailand*, FUTURE SOUTHEAST ASIA (May 12, 2020), <https://futuresoutheastasia.com/thai-canal>.

<sup>78</sup> Max Fletcher, *The Suez Canal and World Shipping, 1869-1914*, 18 J. ECON. HIST. 556-73 (1958).

shortened the navigational distance between Europe and Asia by linking the Red and Mediterranean Seas. As a result, ships could avoid sailing around the Cape of Good Hope at the bottom of the African continent.<sup>79</sup>

The 50-mile Panama Canal is also a crucial waterway that links the Atlantic to the Pacific Ocean, meaning that ships no longer have to sail to Cape Horn at the bottom tip of the South American continent to go through the oceans.<sup>80</sup> Opened for traffic as early as 1914, the project was regarded at the time as one of humankind's greatest engineering achievements.<sup>81</sup> The dream of digging a water passage across the tiny strip of land of the Isthmus of Panama can be traced to the 1513 Isthmian crossing of Vasco Nunez de Balboa.<sup>82</sup> In 1848, gold was discovered in California, which led to an increasing volume of trans-Isthmian business.<sup>83</sup> The US began involving in the construction of the Panama Canal in 1899 when the US Isthmian Canal Commission of 1899-1901, otherwise known as the second Walker Commission, was established to study all routes feasible for the construction of a water route between the Atlantic and Pacific Oceans.<sup>84</sup>

Many routes were chosen. Among them were the Nicaraguan and Panamanian routes. Ultimately, the Isthmus of Panama, despite being characterized by mountains and lush tropical rainforest, and possessing some of the most geologically complex land formations in the world, was chosen as a site for the canal. The Isthmus of Panama is only about 50 miles wide at its narrowest point. The construction of the Panama Canal employed a work force of 40,000 and took slightly longer than 10 years to complete. The Panama Canal was the single most expensive construction project in the American history at that time, amounting to a cost of USD 352 million.<sup>85</sup>

Both the Suez and the Panama Canals were magnificent projects - engineering marvels that have revolutionized the world's shipping industry. Although it does not really connect two oceans or continents, the proposed Thai Canal Plan may emulate

<sup>79</sup> Gwyn Topham, *How the Suez Canal Blockage Can Seriously Dent World Trade*, GUARDIAN (Mar. 26, 2021), <http://www.theguardian.com/business/2021/mar/26/how-the-suez-canal-blockage-can-seriously-dent-world-trade>.

<sup>80</sup> Noel Maurer & Carlos Yu, *The Big Ditch: How America Took, Built, Ran and Ultimately Gave Away the Panama Canal*, 65 ECON. HIST. REV. 825 (2012).

<sup>81</sup> Michael Gross, *Will the Nicaragua Canal Connect or Divide?*, 24 CURRENT BIOLOGY R1023-25 (2014), <https://www.sciencedirect.com/science/article/pii/S0960982214013554>.

<sup>82</sup> Vasco Núñez de Balboa, HISTORY.COM (2009), <http://www.history.com/topics/exploration/vasco-nunez-de-balboa>.

<sup>83</sup> John Kemble, *The Gold Rush by Panama, 1848-1851*, 18 PAC. HIST. REV. 45 (1949).

<sup>84</sup> Andrew Merrifield, *The Congressional Decision to Build the Panama Canal: The Influence of Senators John Tyler Morgan, Marcus Alonzo Hanna and Others, and the Role of the Walker Report (1975)* (unpublished M.A. thesis, Portland State University), [https://pdxscholar.library.pdx.edu/open\\_access\\_etds/2435](https://pdxscholar.library.pdx.edu/open_access_etds/2435).

<sup>85</sup> *See Building the Panama Canal*, CBS NEWS (Dec. 10, 1999), <http://www.cbsnews.com/news/building-the-panama-canal>.

the success of these two maritime canals. Nevertheless, not all maritime canal projects are successfully delivered if they are implemented without full consideration of the economic and ecological implications of such a mega project.

India and Sri Lanka are separated by the Palk Strait, which is narrow,<sup>86</sup> shallow, and dotted with many islets and sandy shoals that make it navigationally difficult.<sup>87</sup> Although the strait may be navigated by fishing boats and small crafts, large vessels bound for east or west Indian ports would not be able to traverse through Palk Strait, but must traverse around the island of Sri Lanka. During British colonial rule in 1860, a proposal was mooted to construct a shipping canal through the strait.<sup>88</sup> Only in 2001 did the Indian Government approve the construction of the canal to deepen the Palk Strait.<sup>89</sup> Once completed, the 103-mile-long and 984-foot-wide Palk Strait Canal will shorten the maritime journeys of vessels from the Arabian Sea to the Bay of Bengal by slightly more than a day.<sup>90</sup>

Nevertheless, a half-baked environmental impact assessment conducted by a research institution under the Indian Government has proven disastrous to this ambitious project.<sup>91</sup> The institution issued a report in 2004, claiming that the project was fine to progress without adverse ecological and environmental implications.<sup>92</sup> Twenty-two years have passed since the project was initially approved by the Indian Government in 2001. With multiple escalations of project costs and depletion of funds, the future of this project remains bleak.

The success of the proposed Thai Canal Plan means that Southeast Asia would eventually possess two convenient maritime highways via either the canal or the Straits of Malacca and Singapore. Although Thai Canal offers less geographical advantages than Suez and Panama Canals, the potential opening of the Thai canal may transform the shipping industry across the region, potentially reducing shipping

<sup>86</sup> M. Mayilvaganan, "Troubled Waters": *Maritime Issues in Palk Strait, Indian Ocean*, 1 SAMUDERA J. MAR. & COASTAL STUD. 35 (2019).

<sup>87</sup> Hazmi Rusli, *The Palk Strait Project: A Transit Passage Regime for a canal?* (FAO White Paper, 2012), <https://agris.fao.org/agris-search/search.do?recordID=AV2012095763>.

<sup>88</sup> Randeep Ramesh, *India's Suez Canal Opens Up Divide*, GUARDIAN (July 2, 2015), <http://www.theguardian.com/world/2005/jul/02/india.srilanka>.

<sup>89</sup> Rusli, *supra* note 87.

<sup>90</sup> Justin Huggler, *India's "Panama Canal" is a Disaster, Warn Ecologists*, INDEPENDENT (Nov. 5, 2005), [www.independent.co.uk/climate-change/news/india-s-panama-canal-is-a-disaster-warn-ecologists-324929.html](http://www.independent.co.uk/climate-change/news/india-s-panama-canal-is-a-disaster-warn-ecologists-324929.html).

<sup>91</sup> T. Rajaram & Ashutosh Das, *Need for Participatory and Sustainable Principles in India's EIA System: Lessons from the Sethusamudram Ship Channel Project*, 24 IMPACT ASSESSMENT & PROJECT APPRAISAL 115–26 (2006), <https://www.tandfonline.com/doi/pdf/10.3152/147154606781765237>.

<sup>92</sup> R. Pachauri, *Sethusamudram Project, a Misadventure*, PIONEER (Apr. 7, 2018), [www.dailypioneer.com/2018/columnists/sethusamudram-project--a-misadventure.html](http://www.dailypioneer.com/2018/columnists/sethusamudram-project--a-misadventure.html).

traffic navigating the Straits of Malacca and Singapore. This, however, depends on how shipowners are incentivized to opt for the Thai Canal over other routes. Nonetheless, Singapore has recently invested billions of dollars in developing Tuas Port, which envisions itself to be the world's largest fully automated port when completed in 20 years.<sup>93</sup> In January 2022, Malaysia invested considerably in a large expansion of the Port of Tanjung Pelepas, situated just a stone's throw away from the Tuas Part at the busy stretch of the Straits of Malacca and Singapore.<sup>94</sup> These are indications that the Straits of Malacca and Singapore would continue to be the preferred maritime conduit linking the East and West, notwithstanding the potential construction of an alternative route via the Isthmus of Kra.

## 4. Conclusion

This article has examined the possible effects of the proposed Thai Canal Plan and AUKUS under the US Indo-Pacific Strategy. The Biden administration, through the US Indo-Pacific Strategy, has pledged to pursue an Indo-Pacific region that is free and open, connected, prosperous, secure, and resilient. Under this strategy, the US will continue to deliver on AUKUS, among others, preparing Australia to possess its first nuclear-powered submarines by 2040.

As caretakers of the Straits of Malacca and Singapore, Malaysia and Indonesia have expressed unease regarding AUKUS. Article 44 of the UNCLOS requires straits to remain open for shipping traffic leaving states bordering straits with limited options to impede or suspend navigation, including that of nuclear-powered submarines. Other than nuclear-powered submarines flying Chinese, US, Indian, or Russian flags already navigating the Straits of Malacca and Singapore, Australia would be the next to join the league. Accidents involving nuclear-powered submarines may cause catastrophic effects on the marine environment. Given that the UNCLOS was drafted five decades ago, amendments to the Convention should be considered to further balance shipping and protection of the marine environment, particularly in regulating the passage of nuclear-powered submarines.

<sup>93</sup> See *NDR 2022: Tuas Port Will Be World's Largest Fully Automated Port When Completed in 20 Years*, CHANNELNEWSASIA (Aug. 21, 2022), <http://www.channelnewsasia.com/singapore/tuas-port-worlds-largest-fully-automated-port-20-years-ndr-2022-greater-southern-waterfront-2891291>.

<sup>94</sup> Michele Labrut, *Port of Tanjung Pelepas to Invest \$168m after Record 2021*, SEATRADE MAR. NEWS (Jan. 28, 2022), <http://www.seatrade-maritime.com/ports-logistics/port-tanjung-pelepas-invest-168m-after-record-2021>.



The Thai Canal Plan has been scrapped and revived several times. If it does eventuate through initiatives under the US Indo-Pacific Strategy, this project would revolutionize the shipping industry within the Southeast Asian region. The Straits of Malacca and Singapore may potentially lose their pre-eminence as primary maritime highway linking the Indian Ocean and the Chinese seas. However, there are also factors indicating that this potential route may not entirely become a maritime conduit of great significance it is envisaged to be. The fact that navigating via the proposed Thai Canal is not subjected to the unimpeded right of transit passage under the UNCLOS may discourage shipowners from utilizing it. Unlike traditional route via the Straits of Malacca and Singapore, as international law does not regulate navigation via the proposed Thai Canal, transits may be subjected to toll charges. Therefore, proper studies should be undertaken before such a project is commissioned so that the canal does not end up like the Sethusamudram Shipping Canal Project erected across Palk Strait.

Without doubt, the region would experience a more apparent US presence via the US Indo-Pacific Strategy. Southeast Asian nations should support this opportunity to secure closer ties with the US, without undermining relationships with other superpower nations.

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