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Unfolding Black and White of China's BRI in the Indian Ocean: Narratives, Perceptions and Public Diplomacy

Nong Hong*

Abstract

In 2015, China released its "Vision and Actions on Jointly Building Belt and Road", describing a "Silk Road Spirit" characterized by "peace and cooperation, openness and inclusiveness, mutual learning and mutual benefits". However, with China's economic growth and increasing global influence, China's BRI practices have encountered such criticisms as 'debt trap'. This presentation explores the narrations and perceptions of Indian Ocean littoral states and of western media on China's BRI and provides a Chinese perspective responding to these perceptions. The China-US geopolitical competition in Indian Ocean will also be discussed in the context of United States' own initiative, the Blue Dot Network, as the counterweight that will compete with China's spreading global influence through the BRI.

Keywords: Maritime, Indian Ocean, Maritime security, diplomacy, Silk Road, BRI

As of January 2021, China had spent US\$ 4 trillion on 3,164 projects related to the Belt and Road Initiative (BRI), among which 1,590 were BRI projects and 1,574 were classified as "Projects with Chinese involvement."¹ As much as 140 countries joined the Belt and

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¹. Chris Devonshire-Ellis, "China's Belt and Road Initiative: Infrastructure Developments to Expect in 2021," *Silk Road Briefing*, December 16, 2020, [https://www.silkroadbriefing.com/news/2020/12/16/chinas-belt-and-road-initiative-infrastructure-developments-to-expect-in-2021/..](https://www.silkroadbriefing.com/news/2020/12/16/chinas-belt-and-road-initiative-infrastructure-developments-to-expect-in-2021/)

Road Initiative by signing a MoU with China,² and 138 countries and regions and 30 international organizations signed 200 cooperation agreements with China under the BRI framework.³ Despite these impressive figures, particularly in the Indian Ocean, China's BRI has come under severe scrutiny from both the participating states and the Western media and governments, resulting in a mix of negative and positive narratives and perceptions. The role of China's BRI in the Indian Ocean could not be simply labeled as either 'black' or 'white.' Instead, the assessment needs to take into consideration a combination of political, economic and social factors concerning the participating states, as well as the broader context of the U.S.-China strategic competition.

1. Narratives and Perceptions on BRI: Littoral States' Perspective

India is well known for its resistance to China's BRI from the start. India's sense of unease is caused by Beijing's growing collaboration with India's neighbors, e.g., Pakistan. China's commercial initiatives are seen by India as a means to advance its strategic ambitions in ways that often are not conducive to India's interests. Former Indian foreign secretary Subrahmanyam Jaishankar noted in 2016 that the "interactive dynamic between strategic interests and connectivity initiatives—a universal proposition—is on particular display in our continent."⁴ It refrained from attending the first and second BRI Forum held in Beijing in May 2017 and April 2019 respectively despite invitations from China. In 2015, China proposed to include the Bangladesh, China, India and Myanmar Economic Corridor (BCIM) as part of its vision for the BRI. India has now warmed up to the idea of BCIM. In May 2019, the BCIM was not mentioned in a list of 35 corridors and projects in a joint communique issued by

². Christoph Nedopil Wang, "Countries of the Belt and Road Initiative (BRI) – Green Finance & Development Center," n.d., <https://green-bri.org/countries-of-the-belt-and-road-initiative-bri/>.

³. Devonshire-Ellis, "China's Belt and Road Initiative."

⁴. Darshana M Baruah, "India's Answer to the Belt and Road: A Road Map for South Asia," *Carnegie India*, 2018, <https://carnegieindia.org/2018/08/21/india-s-answer-to-belt-and-road-road-map-for-south-asia-pub-77071>.

state leaders attending the 2nd Belt and Road Forum due to the resistance from India.⁵ However, India has sought to keep the BCIM intact by sending a delegation to the 13th BCIM Forum, noting however the corridor predates the BRI. India sent a subtle message through the UN Economic and Social Council (ECOSOC) on the Chinese model of development partnership that it perceives as “huge debts” and promoted it with its own model of partnership that does not lead to “indebtedness.” Persistent mistrust and competition between India and China continue to pose a problem.⁶ In 2017, tensions came to the fore with the Doklam border standoff.

Maldives is often mentioned in two contexts. China’s investments in the country are typically seen as either “debt traps” or an indirect competition with India over influence for the Maldives.^{7,8,9} Also, the newly elected Maldives government is reportedly “alarmed at the amount of debt it owes to China” from the former administration’s decisions.¹⁰ After years of concerns over whether the Maldives

⁵. “Joint Communique of the Leaders’ Roundtable of the 2nd Belt and Road Forum for International Cooperation - Belt and Road Forum for International Cooperation,” *www.beltandroadforum.org*, 2019, <http://www.beltandroadforum.org/english/n100/2019/0427/c36-1311.html>.

⁶. Rahul Mishra, “What Ails India-China Relations? | DW | 27.04.2018,” *Deutsche Welle*, 2018, <https://www.dw.com/en/what-ails-india-china-relations/a43560117>.

⁷. Marwaan Macan-Markar, “China Debt Trap Fear Haunts Maldives Government,” *Nikkei Asia*, October 2020, <https://asia.nikkei.com/Spotlight/Belt-and-Road/China-debt-trap-fear-haunts-Maldives-government>.

⁸. Jeff M. Smith, “China and the Maldives: Lessons from the Indian Ocean’s New Battleground,” *The Heritage Foundation*, August 2020, <https://www.heritage.org/global-politics/report/china-and-the-maldives-lessons-the-indian-oceans-new-battleground>.

⁹. “India Seeks to Counter China Influence in Maldives with Bridge Project | DW | 13.08.2020,” *DW.COM*, August 2020, <https://www.dw.com/en/india-seeks-to-counter-china-influence-in-maldives-with-bridge-project/a-5455981..>

¹⁰. EurAsian Time Desk, “Maldives Could Relinquish Control of an Island as Chinese Loan & Pressure Mounts?,” *Latest Asian, Middle-East, EurAsian, Indian News*, September 18, 2020, <https://eurasianimes.com/maldives-could-relinquish-control-of-an-island-as-chinese-loan-pressure-mounts/>.

government is “handing itself over to China,”¹¹ a government report on alleged Chinese corruption was completed in 2020.¹² In late 2020, the Maldives, which has unsurprisingly taken a big economic hit from the Covid-19 pandemic, started getting a lot more attention by the media and analysts,¹³ especially as the pandemic forced the Maldives to quarantine.¹⁴ The Asian Development Bank has estimated that the Maldives will be the worst coronavirus-hit Asian country in terms of lost tourism, which accounts for 60% of its foreign exchange earnings. The crisis could shift political and security dynamics in the Indian Ocean region, with a suddenly economically distressed Maldives looking at China for support.

Sri Lanka is another country that is often cited as a prime case of a Chinese “debt trap.” The handoff of the Sri Lankan port to China Harbor Engineering Company, one of Beijing’s largest state-owned enterprises, is typically directly linked to Sri Lanka’s efforts to pay off their debt to Beijing and has been seen as an indication that Sri Lanka is moving closer to Beijing.¹⁵ This famous Hambantota port deal is not merely an issue of Chinese debt—Sri Lanka has much larger economic issues that go well beyond the debt owed to China. India and the U.S. are concerned about this apparent tightening of Sri Lanka-China

¹¹. Robert A. Manning and Gopaldaswamy Bharath, “Is Abdulla Yameen Handing over the Maldives to China?,” *Foreign Policy*, accessed February 8, 2022, <https://foreignpolicy.com/2018/03/21/is-abdulla-yameen-handing-over-the-maldives-to-china/>.

¹². Alasdair Pal and Devjyot Ghosha, “Report on Alleged Chinese Corruption in Maldives Due by June: Minister,” *Reuters*, January 16, 2020, sec. China, <https://www.reuters.com/article/us-maldives-china-report/report-on-alleged-chinese-corruption-in-maldives-due-by-june-minister-idUSKBN1ZF1Jz>.

¹³. “Chinese Investment in the Maldives: Appraising the String of Pearls,” *Asia Maritime Transparency Initiative*, October 2020, <https://amti.csis.org/chinese-investment-in-the-maldives-appraising-the-string-of-pearls/>.

¹⁴. Bertil Lintner, “Quarantined Maldives Needs China to Survive,” *Asia Times*, March 27, 2020, <https://asiatimes.com/2020/03/quarantined-maldives-needs-china-to-survive/>.

¹⁵. Umesh Moramudali, “Is Sri Lanka Really a Victim of China’s ‘Debt Trap’?,” *The Diplomat.com*, May 14, 2019, <https://thediplomat.com/2019/05/is-sri-lanka-really-a-victim-of-chinas-debt-trap/>.

relations.¹⁶¹⁷ Washington just decided in January 2021 to pull \$480 million in aid to Sri Lanka as the Rajapaksas family returns to power and continues to tighten ties with China.¹⁸¹⁹

The West generally perceives China's new military support base in Djibouti, which is next door to the United States' own military base, as a strategic "foothold" or a starting point for further influence on the African continent and an expansion of its global naval presence, as Djibouti is the PLAN's first foreign military base.²⁰ The speed at which the base has been built and the sudden, extensive investments over the last decade are viewed upon with suspicion more often than not. The 2020 "fast-tracked" port expansion and the recent \$3 billion base expansion deal signed in the first week of January are generally termed as "China expanding its global reach and influence," while analyses are centered around speculating China's intents and how the base fits into their grand strategy.²¹²² Sometimes Djibouti is directly

¹⁶. N. Sathiya Moorthy, "What Does Sri Lanka Moving Closer to China Mean for India?," *ORF*, October 2020, <https://www.orfonline.org/expert-speak/what-does-srilanka-moving-closer-china-means-india/>.

¹⁷. "Resetting China–Sri Lanka Relations for a Biden Presidency," *East Asia Forum*, November 18, 2020, <https://www.eastasiaforum.org/2020/11/18/resetting-china-sri-lanka-relations-for-a-biden-presidency/>.

¹⁸. Akira Hayakawa, "US Yanks \$480m Aid to Sri Lanka with Eye on China," *Nikkei Asia*, November 2020, <https://asia.nikkei.com/Politics/International-relations/US-yanks-480m-aid-to-Sri-Lanka-with-eye-on-China>.

¹⁹. Saeed Shah and Uditha Jayasinghe, "China Regains Clout in Sri Lanka with Family's Return to Power," *Wall Street Journal*, November 28, 2020, sec. World, <https://www.wsj.com/articles/china-regains-clout-in-sri-lanka-with-familys-return-to-power-11606568404>.

²⁰. Max Bearak, "In strategic Djibouti, a microcosm of China's growing foothold in Africa," *The Washington Post*, December 30, 2019, Max Bearak, "In Strategic Djibouti, a Microcosm of China's Growing Foothold in Africa," *Washington Post*, December 30, 2019, https://www.washingtonpost.com/world/africa/in-strategic-djibouti-a-microcosm-of-chinas-growing-foothold-in-africa/2019/12/29/a6e664ea-beab-11e9-a8b0-7ed8a0d5dc5d_story.html.

²¹. H. I. Sutton, "Satellite Images Show That Chinese Navy Is Expanding Overseas Base," *Forbes*, May 10, 2020, <https://www.forbes.com/sites/hisutton/2020/05/10/satellite-images-show-chinese-navy-is-expanding-overseas-base/?sh=1f3870216869>.

referred to as a point of “face off” in the great power competition,²³ but Djibouti has also gone unnoticed—or seen as less important to discuss—by the media and analysts.

Between its prime minister publicly defending China’s BRI projects in Malaysia²⁴ and conflicts over fishing off Malaysia’s claimed Luconia Shoals—among other confrontations in the South China Sea, especially in 2020—Malaysia’s relations with China have led to mixed messaging and some confusion. Some seem to infer that Malaysia should be doing a lot more to counter China’s perceived intrusions of its waters and resources, placing pressure on Malaysia to join its neighbors and directly speak out against Beijing despite being “usually friends.”²⁵²⁶²⁷ Analyses commonly explain the positive relationship by pointing to Malaysia’s economic priorities, but have also noted that a change in the relationship is a matter of time and will be triggered by how vocal Malaysia is against China’s activities.²⁸

As Cambodia’s largest foreign investor, China has undeniably become Cambodia’s largest economic influencer. Two ideal examples

²². “China Merchants Signs Deal for \$3bn Expansion of Djibouti City Port,” *Global Construction Review*, January 8, 2021, <https://www.globalconstructionreview.com/news/china-merchants-signs-deal-3bn-expansion-djibouti-/>.

²³. Arwa Damon, “China’s Military Expands Its Influence in Africa,” *CNN*, May 27, 2019, <https://edition.cnn.com/2019/05/26/africa/china-belt-road-initiative-djibouti-intl/index.html>.

²⁴. Bhavan Jaipragas, “Silk Road Role for Malaysia, If It Can Overcome Suspicions,” *South China Morning Post*, May 13, 2017, <https://www.scmp.com/week-asia/politics/article/2094168/belt-and-road-role-malaysia-if-it-overcomes-suspicions-china>.

²⁵. Ben Westcott and Brad Lendon CNN, “Pressures Increasing on Indonesia and Malaysia in the South China Sea,” *CNN*, accessed February 8, 2022, <https://www.cnn.com/2020/06/07/asia/china-malaysia-indonesia-south-china-sea-intl-hnk/index.html>.

²⁶. “Chinese Ships Intruded into Malaysian Waters 89 Times in Four Years, Report Says,” *Reuters*, July 14, 2020, sec. Emerging Markets, <https://www.reuters.com/article/us-malaysia-china-southchinasea/chinese-ships-intruded-into-malaysian-waters-89-times-in-four-years-report-says-idUSKCN24F17U>.

²⁷. Ralph Jennings, “China and Malaysia, Usually Friends, Land in Another Maritime Standoff,” *VOA*, November 2020, <https://www.voanews.com/east-asia-pacific/voa-news-china/china-and-malaysia-usually-friends-land-another-maritime-standoff>.

²⁸. Felix K. Chang, “A Faint Breeze of Change: Malaysia’s Relations with China,” *Foreign Policy Research Institute*, January 8, 2020, <https://www.fpri.org/article/2020/01/a-faint-breeze-of-change-malaysias-relations-with-china/>.

of BRI-linked projects are the Sihanoukville Special Economic Zone (SSEZ) and the planned Phnom Penh-Sihanoukville Expressway which present many potential benefits for Cambodia. As Cambodia seeks to develop an innovation and skill-based economy, the BRI presents monumental opportunities and the financial capacity to evolve Cambodia into a middle- to high-income country by promoting a skill-driven economy and manufacturing high quality goods.²⁹ The BRI created 20,000 jobs to help local Cambodians, especially low-skilled and female workers. China also supports the building of soft infrastructure in Cambodia through scholarships, fellowships and research centers. There is a concern that any overdependence on China poses certain constraints on Cambodia's foreign policy options.³⁰ There are also concerns among the locals toward the quality and transparency of Chinese investments, from resettlement and compensation to environmental damage to land grabbing.

Compared with the abovementioned countries, Bangladesh and Pakistan have shown more support for BRI. Bangladesh suffers from a growth debilitating deficit in infrastructure and China's BRI represents an opportunity to fill the infrastructure gap in Bangladesh. Bangladesh considers China as one of its most valued partners for its socio-economic development and appreciated the continued Chinese aid and support to Bangladesh during the ongoing Covid-19 pandemic.³¹ The China-Pakistan Economic Corridor (CPEC), the flagship project of its BRI, is best seen as the economic peg in the

²⁹. Natalie Song, "What China's Belt and Road Initiative Means for Cambodia," *US-China Today*, April 19, 2019, <https://uschinatoday.org/features/2020/07/21/what-chinas-belt-and-road-initiative-means-for-cambodia/>.

³⁰. Sok Kha, "The Belt and Road in Cambodia: Successes and Challenges," *The Diplomat*, April 30, 2019, <https://thediplomat.com/2019/04/the-belt-and-road-in-cambodia-successes-and-challenges/>.

³¹. "Bangladesh Considers China as One of Its Most Valued Partners: Sheikh Hasina - National Observerbd.com," *The Daily Observer*, October 1, 2020, <https://www.observerbd.com/news.php?id=277647>.

wider strategic relationship between Pakistan and China.³² With its stated goals aligning with those in China's main BRI policy documents, CPEC projects constitute the bulk of BRI-related activities in Pakistan. The two governments also drew up a "Long Term Plan," starting in 2017 and drastically expanding the projected timeline for implementation up to 2030.³³

2. Narratives about BRI: Views in the Western Media and Government

In an article in *The Diplomat*, Chan Kung and Yu Pan claimed that the initial intent behind the BRI and its potential success in "optimizing China's domestic economic development model, economic structure, and industrial sector" has failed, and that China has to address this problem squarely and make appropriate policy responses in a timely manner to correct and adjust course.³⁴ Yen Nee Lee at CNBC said that Joe Biden's pledge to prioritize fighting climate change could turn up the pressure on China's BRI, which has been criticized for financing and building infrastructure projects that harm the environment.³⁵ An article in *Financial Times* said that what was conceived as the world's biggest development programme is unravelling into what could become China's first overseas debt crisis.³⁶ Daniel Russel and Samuel Locklear, in their article in *The Diplomat*, argued that the BRI-driven trend toward a Chinese sphere

³². Madiha Afzal, "'AT ALL COSTS': HOW PAKISTAN and CHINA CONTROL the NARRATIVE on the CHINA-PAKISTAN ECONOMIC CORRIDOR," 2020, https://www.brookings.edu/wp-content/uploads/2020/06/FP_20200615_china_pakistan_afzal_v2.pdf.

³³. Jacob Mardell, "The BRI in Pakistan: China's Flagship Economic Corridor | Merics," *Merics.org*, May 20, 2020, <https://merics.org/en/analysis/bri-pakistan-chinas-flagship-economic-corridor>.

³⁴. Chan Kung and Yu Pan, "How China's Belt and Road Initiative Went Astray," *TheDiplomat.com*, May 7, 2020, <https://thediplomat.com/2020/05/how-chinas-belt-and-road-initiative-went-astray/>.

³⁵. Yen Nee Lee, "Biden's Focus on Climate Change Could Turn up the Pressure on China's Mega Infrastructure Program," *CNBC*, January 14, 2021, <https://www.cnbc.com/2021/01/14/climate-change-biden-could-up-pressure-on-chinas-belt-and-road-initiative.html>.

³⁶. James Kynge and Jonathan Wheatley, "China Pulls Back from the World: Rethinking Xi's 'Project of the Century,'" December 11, 2020, <https://www.ft.com/content/d9bd8059-d05c-4e6f-968b-1672241ec1f6>.

of influence is neither inevitable nor irreversible, and they called upon the U.S. to take effective measure countering this.³⁷

China's BRI has been challenged by, e.g. Japan who is the incumbent provider of infrastructure and has been outspending China in most markets in Southeast Asia.³⁸ Japan's emphasis on "quality infrastructure" has been expanded to the G7, the G20, and several bilateral efforts. China's BRI has pushed Japan and Europe closer together, leading to their announcement of a "Partnership on Sustainable Connectivity and Quality Infrastructure."³⁹

Europe sees China's inroads into Central and Eastern Europe as an attempt to use carrots to soften EU positions on China and build client-style relations with countries that are candidates to join the EU.⁴⁰ EU is now working to revise its 2018 "Connecting Europe and Asia" strategy to make it more geopolitical and possibly extend it to Africa and Latin America.⁴¹ An EU Parliamentary resolution in 2020 on EU-Asia connectivity took stock of recent EU efforts and called for the EU Commission to create a global connectivity strategy.⁴² Even

³⁷. Daniel Russel and Samuel Locklear, "China Is Weaponizing the Belt and Road. What Can the US Do about It?," *TheDiplomat.com*, October 22, 2020, <https://thediplomat.com/2020/10/china-is-weaponizing-the-belt-and-road-what-can-the-us-do-about-it/>

³⁸. Michelle Jamrisko, "China No Match for Japan in Southeast Asia Infrastructure Race," *Bloomberg.com*, June 23, 2019, <https://www.bloomberg.com/news/articles/2019-06-23/china-no-match-for-japan-in-southeast-asia-infrastructure-race>.

³⁹. "The Partnership on Sustainable Connectivity and Quality Infrastructure Between Japan and the European Union," <https://www.mofa.go.jp/files/000521432.pdf>.

⁴⁰. Heather A. Conley, "Becoming a Chinese Client State: The Case of Serbia," *Www.csis.org*, September 24, 2020, <https://www.csis.org/analysis/becoming-chinese-client-state-case-serbia>.

⁴¹. "Connecting Europe & Asia: The EU Strategy," *EEAS - European External Action Service - European Commission*, September 26, 2019, https://eeas.europa.eu/headquarters/headquarters-homepage/50699/connecting-europe-asia-eu-strategy_en.

⁴². European Parliament, Committee on Foreign Affairs, *Draft Report on Connectivity and EU-Asia Relations (2020/2115(INI))*, October 28, 2020, https://www.europarl.europa.eu/doceo/document/AFET-PR-660104_EN.pdf.

more encouraging would be to add connectivity to the European Commission's proposed "US-EU agenda for global change."⁴³

There are also positive views of China's BRI in Western media. Alice Han and Eyck Freymann at Foreign Policy pointed out that as the pandemic rages, China's strategy is becoming more high-tech and sophisticated, with a refocus on public health (especially vaccines), green technology, and digital services.⁴⁴ During Chinese Foreign Minister Wang Yi's 5-Country Africa tour, two new partners for the BRI were added, DRC and Botswanan, among other agreements which emphasize the positive trajectory and future of ties between China and its African partners.⁴⁵⁴⁶ These two new MOUs will likely inject fresh energy into an initiative whose projects have stagnated and faced controversy, they will also provide Beijing with an opportunity to signal its continued willingness to back infrastructure development across the continent.

Rather than pointing the fingers at China, an article at Chatham House points out that the governments of developing countries and their associated political and economic interests determine the nature of BRI projects on their territory, rather than China, as China's development financing system is too fragmented and poorly coordinated to pursue detailed strategic objectives.⁴⁷ Political-

⁴³. European Commission, High Representative of the Union for Foreign Affairs and Security Policy, *Joint Communication to the European Parliament, the European Council and the Council: A new EU-US agenda for change* (Brussels: 2020), https://ec.europa.eu/info/sites/default/files/joint-communication-eu-us-agenda_en.pdf.

⁴⁴. Alice Han Freymann Eyck, "Coronavirus Hasn't Killed Belt and Road," *Foreign Policy*, January 6, 2021, <https://foreignpolicy.com/2021/01/06/coronavirus-hasnt-killed-belt-and-road>.

⁴⁵. Eleanor Albert, "China's Foreign Minister Revives Belt and Road on 5-Country Africa Tour," *The Diplomat.com*, January 2021, <https://thediplomat.com/2021/01/chinas-foreign-minister-revives-belt-and-road-on-5-country-africa-tour/>.

⁴⁶. "Wang Yi: China and Africa Sign the 46th Bilateral Agreement on BRI Cooperation," *Www.mfa.gov.cn*, January 7, 2021, <http://www.fmcojpc.gov.hk/eng/Topics/gjft1845376.html>.

⁴⁷. Lee Jones and Shahar Hameiri, "Debunking the Myth of 'Debt-Trap Diplomacy' How Recipient Countries Shape China's Belt and Road Initiative," 2020,

economy dynamics and governance problems on both sides have led to poorly conceived and managed projects, which have resulted in substantial negative economic, political, social and environmental consequences that are forcing China to adjust its BRI approach.

Two significant and independent studies were released confirming there were no signs of “debt trap” diplomacy by China along the BRI: the “China-Africa online interactive database of Chinese loans into Africa (2000-2018)” and “Debunking the Myth of ‘Debt-trap Diplomacy: How Recipient Countries Shape China’s Belt and Road Initiative.”⁴⁸ Both studies discovered no evidence of debt trap and found that only 3 of Africa’s 54 countries have any Chinese debt issues, and only one of these is significant.⁴⁹⁵⁰ It is suggested that BRI is, in fact, motivated largely by economic factors, with outcomes being shaped by interests, agendas and governance problems on both sides of China and of the participating countries.

3. China’s Response to Critique on BRI

In January 2021, China published a white paper on its international development cooperation model to promote BRI, which has slowed down following the outbreak of the pandemic.⁵¹ The white paper identified Belt and Road cooperation as a major platform to promote policy, infrastructure, trade, financial and people-to-people connectivity among countries. On China’s Foreign Ministry Spokesperson Wang Wenbin's Regular Press Conference on December 21, 2020, he pointed out that despite the global pandemic, the growing BRI cooperation demonstrates resilience against risks

<https://www.chathamhouse.org/sites/default/files/2020-08-25-debunking-myth-debt-trap-diplomacy-jones-hameiri.pdf>.

⁴⁸. “China Africa Research Initiative Loans Database,” *Chinaafricaloandata.bu.edu*, n.d., <https://chinaafricaloandata.bu.edu/>.

⁴⁹. Devonshire-Ellis, “China’s Belt And Road Initiative.”

⁵⁰. Jones and Hameiri, *Debunking the Myth of “Debt-trap Diplomacy.”*

⁵¹. “China Issues White Paper on International Development Cooperation,” *News.cgtn.com*, n.d., <https://news.cgtn.com/news/2021-01-10/China-issues-white-paper-on-international-development-cooperation-WVMI0pRHPi/index.html>.

and plays an important role in helping countries fight the virus, stabilize the economy and protect people's livelihood.⁵² "The Health Silk Road, the digital Silk Road and a green Silk Road have all become new highlights."⁵³

In response to debt traps accusation, the Chinese government has canceled interest-free loans owed by African countries due to mature by the end of 2020, which makes it the biggest contributor to the G20 Debt Service Suspension Initiative.⁵⁴ Africa owes most of its debt to multilateral financial institutions and commercial creditors in developed countries, who should join the debt relief efforts. Stephen Roach, senior fellow at Yale University's Jackson Institute for Global Affairs, said that BRI is a positive program that will contribute significantly to address the important issue of the regional infrastructure gap.⁵⁵

There are no lack of cooperation between China and littoral states of the Indian Ocean. For example, China established its naval logistics facility in Djibouti in 2017. Sri Lanka has allowed a Chinese submarine and a warship to dock at its port in the capital Colombo.⁵⁶ Pakistan Navy parked one of its submarines in the middle of Chinese Navy warships visiting Karachi.⁵⁷ Bangladesh has been a member of BRI since 2016 and a significant number of agreements covering a range of sectors including power, investment, culture, tourism and

⁵². "Foreign Ministry Spokesperson Wang Wenbin's Regular Press Conference on December 21, 2020," *Ministry of Foreign Affairs of the People's Republic of China*, December 2020, https://www.fmprc.gov.cn/mfa_eng/xwfw_665399/s2510_665401/t1841684.shtml.

⁵³. Ibid.

⁵⁴. Jevans Nyabiage, "China's Loan Write-Offs 'Does Not Fix Africa's Bigger Debt Crisis,'" *South China Morning Post*, June 20, 2020, <https://www.scmp.com/news/china/diplomacy/article/3089856/chinas-promise-loan-write-offs-distressed-african-nations>.

⁵⁵. "Interview: U.S. Expert on China Says BRI to Contribute Significantly to Addressing Regional Infrastructure Gap - Xinhua | English.news.cn," *Www.xinhuanet.com*, April 19, 2019, http://www.xinhuanet.com/english/2019-04/19/c_137989864.htm.

⁵⁶. Shihar Aneez and Ranga Sirila, "Chinese Submarine Docks in Sri Lanka despite Indian Concerns," *Reuters*, November 2, 2014, sec. Top News, <https://www.reuters.com/article/sri-lanka-china-submarine/chinese-submarine-docks-in-sri-lanka-despite-indian-concerns-idINKBNOIMOLU20141102>.

⁵⁷. Sutton, "Satellite Images."

technology. China is the only country with whom Bangladesh has a defense cooperation agreement and Bangladesh's largest supplier of weapons. There is steady progress of BRI in Bangladesh, and China supported Bangladesh with its fight against the pandemic. Belarusian President Alexander Lukashenko said Belarus will promote the linking of the China-proposed Belt and Road Initiative with the integration process of the Eurasian Economic Union (EAEU).⁵⁸ The China-Belarus comprehensive strategic partnership has kept developing steadily since the two countries established diplomatic relations 29 years ago.

4. The US-China Competition in the Indian Ocean

In addition to the narratives of littoral states, the context of the US-China strategic competition should not be overlooked in assessing BRI in Indian Ocean. The US seems to view the naval exercises and other moves by China and Russia in Indian Ocean a move to team up and counter the US, India and others.⁵⁹ The US has developed strategic partnership with India to contain China given Indian geo-strategic position. India has nearly agreed to join the U.S. Blue Dot Network (BDN) of the Indo-Pacific region. According to the joint statement—titled “Vision and Principles for India-US Comprehensive Global Strategic Partnership”—issued after U.S. President Donald Trump's bilateral meeting with Prime Minister Narendra Modi on 25 February 2020, both leaders have “expressed interest” in the BDN initiative.⁶⁰

In Cambodia, China seeks to return to its former glory by reviving the interconnectedness and vitality of the Silk Road through the BRI

⁵⁸. “Belarus to Promote Linking of Belt and Road Initiative with EAEU,” November 24, 2020, http://www.xinhuanet.com/english/2020-11/24/c_139540546.htm.

⁵⁹. Maria Siow, “Are China and Russia Teaming up on the US in the Indian Ocean?,” *South China Morning Post*, January 11, 2021, <https://www.scmp.com/week-asia/politics/article/3116966/are-china-and-russia-teaming-us-indian-ocean>.

⁶⁰. “Joint Statement: Vision and Principles for India-U.S. Comprehensive Global Strategic Partnership,” February 25, 2020, https://www.mea.gov.in/bilateral-documents.htm?dtl/32421/Joint_Statement_Vision_and_Principles_for_IndiaUS_Comprehensive_Global_Strategic_Partnership.

when the U.S. increases its presence there.⁶¹ The United States watches closely the China-India competition in the Indian Ocean Region and explores possible strategic implications for the United States as they help shape the United States' regional strategy and military capabilities.⁶²

5. Beyond the Strategy and Military Implications

Although there are concerns about China's development of dual-use functions, one shall not easily assume that China can easily use "debt trap diplomacy" investments in ports and other infrastructure to gain meaningful military advantages in the context of the Indian Ocean. With the overwhelming skeptics of China's increasing presence in Indian Ocean and the military and security implications that it may bring along, it is worth pointing out that China's interests in the Indian Ocean region is a product of growing commercial interests, with the PLAN being handed over the task of safeguarding them.⁶³ This is not a new concern, for Beijing's 2015 Defense White Paper already stated that its national security is more vulnerable to international and regional turmoil, and the security of overseas interests concerning energy and resources, strategic sea lines of communication, as well as institutions, personnel and assets abroad, have become an imminent issue for China.⁶⁴

The limited nature of China's naval expansion in the Indian Ocean is overlooked—specifically, the People's Liberation Army Navy's (PLAN's) relatively modest presence in the region compared to other powers, its limited air defense and anti-submarine warfare capabilities, and its limited logistics and sustainment infrastructure in

⁶¹. US-China Today, "China's Belt and Road Initiative."

⁶². Bruce Vaughn, "China-India Great Power Competition in the Indian Ocean Region: Issues for Congress Specialist in Asian Affairs," 2018, <https://sgp.fas.org/crs/row/R45194.pdf>.

⁶³. "Can China Dominate the Indian Ocean?," *The Economic Times*, December 24, 2020, <https://economictimes.indiatimes.com/news/defence/can-china-dominate-the-indian-ocean/articleshow/79941438.cms>.

⁶⁴. "China's Military Strategy," *State Council of the People's Republic of China*, 2015, http://english.www.gov.cn/archive/white_paper/2015/05/27/content_281475115610833.htm.

the region.⁶⁵ These three critical challenges limit the PLAN's ability to project power into the region and defend access to SLOCs and chokepoints. That could explain why China sees the value of building facilities, ports and bases in the Indian Ocean littoral states.

6. The Way Forward

In 2020, the world encountered a pandemic resulting in severe harms to global trade, tourism, and remittances. The impact on the "Belt and Road" is no exception. The ongoing BRI projects will continue in the mid- to long-run, although it is reasonable to assume that this will be a BRI with new concepts and new priorities. New BRI projects will probably be chosen more strategically in contrast to the previous envisioning of a globe-spanning network of economic corridors, logistics zones, and financial centers. Along the BRI routes, countries will find themselves in an ever-growing demand for infrastructure, contrasted with extremely limited resources available in the wake of the outbreak. Chinese banks will be cautious of giving loans that may turn out to be non-performing. In addition, China may choose projects that tend to focus on more sophisticated forms of connectivity, such as 5G networks or, in the wake of the pandemic, disaster management, public health-related high-tech, and even remote surgery.

⁶⁵ Jeffrey Becker, "China Maritime Report No. 11: Securing China's Lifelines across the Indian Ocean," *CMSI China Maritime Reports*, December 1, 2020.

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Exploring the Role of Blue Economy in Sustainable Development: A Perspective from Pakistan

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Abstract

Being covered by oceans around 71%, Planet Earth is a blue planet. More than three billion people depend on this natural capital for the sustenance of their lives and livelihoods. Given its twin objectives of securing growth and sustainability, the blue economy has become a pivotal policy discourse. This qualitative study aims to explore the role of the blue economy and sustainable development in the contextual settings of Pakistan. Being a bonafide maritime nation and one of the significant littoral states in the Indian Ocean, Pakistan is blessed with immense blue potential that mostly remained untapped. Despite making reasonable efforts, the country is not making headway towards sustainability. Drawing upon Triple Bottom Line Theory, the study adopts an interpretive research paradigm and collects primary data through semi-structured in-depth interviews with the blue economy experts (n=15) selected through non-probability purposive sampling. The researchers performed a thematic analysis of the primary data and discussed the identified themes. The study confirms that the blue economy and sustainable development are compounding, and Pakistan can't afford their mutual exclusivity. While calling attention to several socio-economic, political, institutional, legal, security, and environmental

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challenges, the study informs that Pakistan's geostrategic location and blue economy potential enable it to turn the tide towards sustainable development. To this effect, the country needs to put in titanic efforts across all spheres to bear out its national and international commitments towards both. The study also contributes to the budding literature on blue economy and sustainable development. With an improved understanding of both phenomena, the study stimulates advanced research and backs the national and international policy discourse. The study also notifies the directions for future research along with limitations and policy implications.

Keywords: Blue Economy, Blue Growth, Blue Tourism, Blue Finance, Sustainable Development, Sustainability, SDGs, Coastal Communities, Triple Bottom Line (3BL); Pakistan

1. Introduction and Background

Undoubtedly, Planet Earth is a blue planet. Its two-third or 71% part is covered by oceans providing humanity with numerous means, from food security to recreation and sea minerals to renewable energy.¹ Such resources are crucial for the sustenance of lives,² as it serves as a mean of livelihood for over three billion people,³ particularly the world's poorest.⁴ Likewise, over 58% of the global population lives in a vicinity of one hundred kilometres (km) of the coast,⁵ and twelve out of fifteen megacities are coastal.⁶ While providing employment to 1.5% of the global workforce, oceans' share

¹. "OECD Ocean - OECD," 2020, <https://www.oecd.org/ocean>.

². "The Ocean Revealed," 2017, http://www.euromarinenetwork.eu/system/files/2017/The_ocean_revealed_ENG.pdf.

³. UNSTADS, "— SDG Indicators," *Unstats.un.org*, 2021, <https://unstats.un.org/sdgs/report/2021/goal-14/>.

⁴. "OECD Ocean - OECD." 2020

⁵. Zafar, Naghmana. "Naghmana Zafar Archives." *Daily Times*, 4 June 2020, <https://dailytimes.com.pk/writer/naghmana-zafar/>.

⁶. Martin Visbeck, "Ocean Science Research Is Key for a Sustainable Future," *Nature Communications* 9, no. 1 (February 15, 2018): 1–4, doi:10.1038/s41467-018-03158-3.

towards global Gross Domestic Product (GDP) stands at 2.5%.⁷ Similarly, the World Wildlife Fund (WWF) reports the current worth of ocean assets stands about 24 trillion US dollars with a projected annual rise of USD 2.5 trillion, putting this natural capital as the world's seventh-largest economy in terms of GDP.⁸ By 2030, this new economic frontier would generate 40 million employments outpacing its all land-based counterparts. Similarly, the concerns about ocean's health,^{9,10} and its prospects are manifold,^{11,12,13} that call for striking a proper balance between both.¹⁴ Against this backdrop, the blue economy (BE) has become a pivotal part of the policy discourse, given its twin objectives of "securing growth and sustainability," which can't be guaranteed in a fossil-based economy.¹⁵ Realizing its worth, the 2030 Sustainable Development Agenda (SDA) of the United Nations (UN) links BE to sustainable development through Sustainable Development Goal (SDG) 14. .¹⁶ BE offers a sea of opportunities to

⁷. Carlos M. Duarte *et al.*, "Rebuilding Marine Life," *Nature* 580, no. 7801 (April 1, 2020): 39–51, doi:10.1038/s41586-020-2146-7.

⁸. "Reviving the Oceans Economy: The Case for Action—2015 | Publications | WWF," *World Wildlife Fund*, 2015, <https://www.worldwildlife.org/publications/reviving-the-oceans-economy-the-case-for-action-2015>.

⁹. Angel Borja *et al.*, "Moving toward an Agenda on Ocean Health and Human Health in Europe," *Frontiers in Marine Science* 7 (February 7, 2020), doi:10.3389/fmars.2020.00037.

¹⁰. René P. Schwarzenbach *et al.*, "Global Water Pollution and Human Health," *Annual Review of Environment and Resources* 35, no. 1 (November 21, 2010): 109–36, doi:10.1146/annurev-environ-100809-125342.

¹¹. Esade Business & Law School, "Planet Ocean: Why Is the Blue Economy so Important?," *Forbes*, 2021, <https://www.forbes.com/sites/esade/2021/04/15/planet-ocean-why-is-the-blue-economy-so-important/?sh=4963ff797c16>.

¹². "OECD Ocean - OECD." 2020

¹³. European Union, "BLUE ECONOMY REPORT," 2021, https://ec.europa.eu/oceans-and-fisheries/system/files/2021-05/the-eu-blue-economy-report-2021_en.pdf.

¹⁴. "World Must Strike Right Balance between Ocean Protection and Production | UNCTAD," *Unctad.org*, 2021, <https://unctad.org/news/world-must-strike-right-balance-between-ocean-protection-and-production>.

¹⁵. Hilde Reinertsen and Kristin Asdal, "Calculating the Blue Economy: Producing Trust in Numbers with Business Tools and Reflexive Objectivity," *Journal of Cultural Economy* 12, no. 6 (July 22, 2019): 552–70, doi:10.1080/17530350.2019.1639066.

¹⁶. United Nations, "The Sustainable Development Goals Report," 2019, <https://unstats.un.org/sdgs/report/2019/The-Sustainable-Development-Goals-Report-2019.pdf>

humanity due to its inclusive approach towards the people, planet, and environment. But many countries still emphasize “economic gains in the ocean economy with little or no regard for social inclusion or environmental sustainability.”¹⁷ Nevertheless, the UN has avowed 2021-30 as the Decade of Ocean Science for SD that channelizes efforts towards a more resilient future through global capacity building and innovative BE solutions¹⁸

2. Research Gap, Objectives and Significance

Pakistan is one of the leading countries that espoused and integrated SDGs into its national development program. Being a bonafide maritime nation with a massive blue potential of around USD 100 billion,¹⁹ the country has fair prospects of achieving sustainability. However, most of the studies in past have focused on the security facets of the maritime domain.^{20,21,22} Some researchers have covered the economic aspects.^{23,24} However, no empirical study based on primary data has been conducted to explore the role of BE in the SD of Pakistan till the writing of this article. Therefore, this considerable research gap and widespread phenomenon of sea-

¹⁷. Ifesinachi Okafor-Yarwood *et al.*, “The Blue Economy–Cultural Livelihood–Ecosystem Conservation Triangle: The African Experience,” *Frontiers in Marine Science* 7 (July 23, 2020), doi:10.3389/fmars.2020.00586.

¹⁸. Visbeck, “Ocean Science Research,” 1-4

¹⁹. Usman Muhammad *et al.*, “Blue Economy of Pakistan: Challenges and Prospects,” *Journal of the Punjab University Historical Society*, no. 02 (2020): 33, http://pu.edu.pk/images/journal/HistoryPStudies/PDF_Files/4_v33_2_2019.pdf.

²⁰. Yen-Chiang Chang and Mehran Idris Khan, “China–Pakistan Economic Corridor and Maritime Security Collaboration,” *Maritime Business Review* 4, no. 2 (June 17, 2019): 217–35, doi:10.1108/mabr-01-2019-0004.

²¹. Inayat Kalim and Areeja Syed, “Maritime Economy and Gwadar Port: A Growth Catalyst,” *Policy Perspectives* 17, no. 1 (2020): 73, doi:10.13169/polipers.17.1.0073.

²². Malik Qasim Mustafa, “MARITIME SECURITY: THE ROLE of PAKISTAN NAVY,” *Strategic Studies* 25, no. 4 (2005): 158–90, <https://www.jstor.org/stable/45242687>.

²³. Asaf Humayun and Naghmana Zafar, “Pakistan’s ‘Blue Economy’: Potential and Prospects,” *Policy Perspectives* 11, no. 1 (2014): 57, doi:10.13169/polipers.11.1.0057.

²⁴ Naghmana Zafar, “Building Maritime Security in Pakistan - The Navy Vanguard,” in *Capacity Building for Maritime Security*, ed. Christian Bueger, Timothy Edmunds, and Robert McCabe (Cham, Switzerland: Springer International Publishing, 2021).

blindness oblige the researchers to conduct an empirical inquiry in this neglected knowledge domain.

3. Blue Economy – An Emerging Paradigm

Largely, BE is considered an offshoot of the green economy; however, the former watch over “energy, transport, sometimes agriculture and forestry sectors” while the latter attends the sectors of “marine, fisheries, and coastal resources”.²⁵ As a concept, it draws upon the work of Gunter Pauli,²⁶ who defined BE as, “the sustainable use of the resources without harming the environment”.²⁷ The idea of BE emerged in 2012 on the sidelines of the UN Conference on Sustainable Development hosted by Brazil in Rio de Janeiro. Since then, the conception has been widely adopted and enthralled an exhibiting response worldwide; however, it lacks any consensual definition.^{28,29,30} Nevertheless, the most commonly used definition of BE was given by the World Bank Group that described: “the blue economy is sustainable use of ocean resources for economic growth, improved livelihood, and jobs, and ocean ecosystem health”³¹ Congruently, the international institutions and the BE literature

²⁵. Julian Roberts and Ahmed Ali, “The Blue Economy in Small States,” *Www.oecd-ilibrary.org*, August 31, 2016, doi:10.14217/5jlsqk98l8q8-en.

²⁶. Jim Sims, “BLUACT: Why the Blue Economy Is an Increasing Sea of Opportunity,” *URBACT*, September 25, 2018, <https://urbact.eu/bluact-why-blue-economy-increasing-sea-opportunity>.

²⁷. Malshin Senaratne and Andrew Zimbroff. "The Blue Economy in the Indian Ocean." *A Literature Review* 1 (2019): 121-146.

²⁸. Young Rae Choi, “The Blue Economy as Governmentality and the Making of New Spatial Rationalities,” *Dialogues in Human Geography* 7, no. 1 (March 2017): 37–41, accessed December 11, 2019, doi:10.1177/2043820617691649.

²⁹. Jennifer J. Silver *et al.*, “Blue Economy and Competing Discourses in International Oceans Governance,” *The Journal of Environment & Development* 24, no. 2 (April 21, 2015): 135–60, doi:10.1177/1070496515580797.

³⁰. Gordon M Winder and Richard Le Heron, “Assembling a Blue Economy Moment? Geographic Engagement with Globalizing Biological-Economic Relations in Multi-Use Marine Environments,” *Dialogues in Human Geography* 7, no. 1 (March 2017): 3–26, doi:10.1177/2043820617691643.

³¹. World Bank and United Nations, *The Potential of the Blue Economy* (World Bank, Washington, DC, 2017), doi:10.1596/26843.

suggest defining this concept considering the contextualized environment because it may have different meanings in different settings.

4. Development and Sustainable Development

Development is a broad term with multiple meanings. Often it is confused with economic growth only.³² Rabie has provided a workable definition of the term that informs that: “development is a comprehensive societal process to move the underdeveloped nations from their state of economic backwardness and slow socio-cultural change to a dynamic state characterized by sustained economic growth and socio-cultural and political transformation that improves the quality of life of all members of society.”³³ Similarly, SD refers to a development paradigm that enables a society to benefit from nature by cautiously using existing (natural) resources without changing their imminent usage. Therefore, the eventual purpose of SD is to ensure a balance across social, economic, and environmental spheres of human life.³⁴ The concept dates back to the late 1970s,³⁵ which was further highlighted in the 1987 Brundtland Commission Report that defined SD as: “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”³⁶ There is a dire need to redefine this concept while complying with the planetary boundaries because the consistent focus of multiple stakeholders on economic value creation has led

³². Dr. Reem Abuiyada, “Traditional Development Theories Have Failed to Address the Needs of the Majority of People at Grassroots Levels with Reference to GAD,” *International Journal of Business and Social Science* 9, no. 9 (2018), doi:10.30845/ijbss.v9n9p12.

³³. Mohamed Rabie. Meaning of development. In *A Theory of Sustainable Sociocultural and Economic Development* (pp. 7-15): Springer. (2016)

³⁴. Justice Mensah, “Sustainable Development: Meaning, History, Principles, Pillars, and Implications for Human Action: Literature Review,” ed. Sandra Ricart Casadevall, *Cogent Social Sciences* 5, no. 1 (August 14, 2019), doi:10.1080/23311886.2019.1653531.

³⁵. Jair Soares Jr and Rogério H Quintella, “Development: An Analysis of Concepts, Measurement and Indicators,” *BAR - Brazilian Administration Review* 5, no. 2 (June 2008): 104–24, doi:10.1590/s1807-76922008000200003.

³⁶. United Nations, *The Sustainable Development Goals Report*, 2019

towards the 'tragedy of the commons' that hampers the future generations' pursuit of prosperity.³⁷

5. Blue Economy and Sustainable Development Nexus

The BE has been recognized as a significant enabler to realize the 2030 SDA. The literature widely supports reciprocity between SD and BE as both are interdependent and share a common objective.³⁸³⁹⁴⁰⁴¹⁴² Likewise, conservation and preservation of marine resources are at the heart of 2030 SDA. Many SDGs are linked to BE.⁴³ Given the significance of BE in SD, the UN espoused SDG14: "to conserve and sustainably use the oceans, seas and marine resources for sustainable development."⁴⁴ Therefore, integrating and balancing the three legs of SD (social, economic, and environmental) is a prime element of BE.⁴⁵

³⁷. Harry Hummels and Aikaterini Argyrou, "Planetary Demands. Redefining Sustainable Development and Sustainable Entrepreneurship," *Journal of Cleaner Production*, August 2020, 123804, doi:10.1016/j.jclepro.2020.123804.

³⁸. Roxana Maria Bădîrcea *et al.*, "Connecting Blue Economy and Economic Growth to Climate Change: Evidence from European Union Countries," *Energies* 14, no. 15 (July 29, 2021): 4600, doi:10.3390/en14154600.

³⁹. Narissa Bax *et al.*, "Ocean Resource Use: Building the Coastal Blue Economy," *Reviews in Fish Biology and Fisheries*, March 2, 2021, doi:10.1007/s11160-021-09636-0.

⁴⁰. Andrés M. Cisneros-Montemayor *et al.*, "Enabling Conditions for an Equitable and Sustainable Blue Economy," *Nature* 591, no. 7850 (March 1, 2021): 396–401, doi:10.1038/s41586-021-03327-3.

⁴¹. Mark J Spalding, "The New Blue Economy: The Future of Sustainability," *Journal of Ocean and Coastal Economics* 2, no. 2 (February 28, 2016), doi:10.15351/2373-8456.1052.

⁴². Gao Tianming *et al.*, "Planning for Sustainability: An Emerging Blue Economy in Russia's Coastal Arctic?," *Sustainability* 13, no. 9 (April 28, 2021): 4957, doi:10.3390/su13094957.

⁴³. Malshini Senaratne and Andrew Zimbhoff, "The Blue Economy in the Indian Ocean -A Literature Review," *Seychelles Research Journal* 1, no. 2 (2019).

⁴⁴. Elza Holmstedt Pell, "The Blue Economy," [www.ibanet.org](https://www.ibanet.org/article/AEB84C3D-B597-4A06-9F05-E9CE1882C1DA), 2021, accessed <https://www.ibanet.org/article/AEB84C3D-B597-4A06-9F05-E9CE1882C1DA>.

⁴⁵. World Bank and United Nations, "Increasing Long-Term Benefits of the Sustainable Use of Marine Resources for Small Island Developing States and Coastal Least Developed Countries BLUE ECONOMY," 2017, <https://sustainabledevelopment.un.org/content/documents/2446blueeconomy.pdf>.

6. Blue Economy Potential of Pakistan

Indeed, Pakistan is endowed with rich marine resources having more than 1000 km long coastline estranged into two fragments, namely Sindh Coast and Makran Coast, with a length of 266.5 km and 734.5 km⁴⁶, respectively; with an Exclusive Economic Zone (EEZ) of around 240,000 sq. km and approximately 50,000 sq. km of additional continental shelf area, the country is a critical maritime player in the Indian Ocean Region (IOR). Out of 142 coastal states, Pakistan is ranked at 74th position with a coast-area ratio of 1:36.⁴⁷ The country's maritime sovereignty spans more territory than the Punjab and Khyber Pakhtunkhwa provinces combined (SDPI, n.d). The country's diverse marine potential ranges from hydrocarbons to rare minerals and various fisheries and biodiversity. Moreover, Pakistan has the sixth-largest mangrove area globally, with an approximate annual value of USD 20 million.⁴⁸ The Indus Delta Region, which contains 97 percent of the whole mangrove forest, is an oil-rich site in Pakistan's EEZ,⁴⁹ coupled with enormous prospects for blue tourism. It is also home to several mineral caches.⁵⁰ According to the book "Elements of Blue Economy" by Rao,⁵¹ at present, Pakistan's ports handle 92 million metric tons of cargo, with 33 million metric tons of

⁴⁶ Naghmana Zafar, "Building Maritime Security in Pakistan - The Navy Vanguard," in *Capacity Building for Maritime Security*, ed. Christian Bueger, Timothy Edmunds, and Robert McCabe (Cham, Switzerland: Springer International Publishing, 2021), p. 78.

⁴⁷ Usman Muhammad *et al.*, "Blue Economy of Pakistan: Challenges and Prospects," *Journal of the Punjab University Historical Society*, no. 02 (2020): 33, http://pu.edu.pk/images/journal/HistoryPStudies/PDF_Files/4_v33_2_2019.pdf.

⁴⁸ Dost Muhammad Muhammad, Muhammad Abbas Brohi, and Najeeb Ullah, "The Pakistan's Untapped Blue Economy Potential," *Journal of Global Peace and Security Studies (JGPSS)* 2, no. 1 (May 25, 2021): 63–73, <https://journals.pakistanreview.com/index.php/JGPSS/article/view/75>.

⁴⁹ Sajid Mehmood Shahzad, *Impact of Pakistan Maritime Affairs on Blue Economy in Backdrop of CPEC*, First edition (Lahore : Dr S M Shahzad SI(M), 2020), <https://www.econbiz.de/Record/impact-of-pakistan-maritime-affairs-on-blue-economy-in-backdrop-of-cpec-shahzad-sajid-mehmood/10012489993>.

⁵⁰ Nuzhat Khan (2011). Marine resources in Pakistan: A tentative inventory. *Pakistan Business Review*, 834-843.

⁵¹ Iftikhar Ahmed Rao and Institute of Policy Studies (Islamabad, Pakistan, *Elements of Blue Economy* (Islamabad: IPS Press, 2020).

liquid cargo and 58 million metric tons of dry goods, and 90% of its international trade is carried out at sea. Marine fisheries contribute less than 1% of the national economy, although having a capacity of USD 2.5 to 3 billion per year with value addition.⁵²

Similarly, a recent study elucidates the country's BE potential in the following words: "The on-shore economic resources of Pakistan are highly diversified and comprise of living and non-living resources. The on-shore living resources include human beings, mangroves, shrimps, crabs, lobsters, and corals whereas the non-living resources include harbours and ports, cliffs and beaches, bays and lagoons, maritime tourist destinations, and national parks, estuaries, and wetlands. Cottage as well as bigger industries like ship building and ship-breaking industries, mechanical workshops, fishing and seafood-related businesses, wind and tidal energy production, and vocational institutes round out the list. The on-shore economic base has potential for unlimited economic activities linked with it on the coastline and even in the hinterland".⁵³

Despite the tremendous potential, Pakistan is not doing well with its blue treasure, whereas neighboring countries are moving faster to convert their BE into sea power. The World Bank (2020) reported that Bangladesh's maritime sector had generated 6 billion US dollars in revenue during 2019, with a coastline stretching over 710 km.⁵⁴ Correspondingly, India's BE is valued at 7 billion US dollars. In contrast, Pakistan's existent yearly maritime proceeds (USD 183 million) are far less than its potential of USD 7.5 billion.⁵⁵ With a

⁵². Ibid.

⁵³. Maliha Khan, "Strategic Human Resource Development: Investing in Balochistan's Blue Economy," 2020, http://issi.org.pk/wp-content/uploads/2020/05/6-SS_Maliha_Zeba_Khan_No-1_2020.pdf.

⁵⁴. Hafez Ahmad, "(PDF) Bangladesh Coastal Zone Management Status and Future Trends," *J Coast Zone Manag* 22, no. 1 (February 2019), https://www.researchgate.net/publication/330956716_Bangladesh_Coastal_Zone_Management_Status_and_Future_Trends.

⁵⁵. Muhammad Ammar Alam, "Prospects of Maritime Economy for Pakistan," *Maritime Study Forum*, August 28, 2019, <https://www.maritimestudyforum.org/prospects-of-maritime-economy-for-pakistan/>.

potential ranging up to billions of dollars, the country can profit from many conventional and emerging BE and maritime sectors with strong political will and capacity building measures across all spheres of national life.⁵⁶⁵⁷

7. Theoretical Framework

Drawing upon the 3BL theory of sustainability,⁵⁸ the present study takes an interpretive social constructivism approach. This theory holds that the long-term survival of a business or corporation is widely dependent upon the fact that it should secure its shareholders' interests, take good care of its people with whom it interacts, and protect the environment where it operates. Any entity deviating from this philosophy will find its survival difficult in the long run. It's also known as the "practical framework of sustainability."⁵⁹ The World Bank also underlines "balancing the triple bottom lines of sustainable development" is a significant element of the BE.⁶⁰ Hence, the theory can be employed to explore the role of BE in the SD of Pakistan.

8. Methods and Procedures

This qualitative study adopts a naturalistic data collection approach based on the interpretive research paradigm. The study sample (n=15), consisting of BE experts, was selected through purposive sampling given the specific nature of the BE. Semi-

⁵⁶. Asaf Humayun and Naghmana Zafar, "Pakistan's 'Blue Economy': Potential and Prospects," *Policy Perspectives* 11, no. 1 (2014): 57, doi:10.13169/polipers.11.1.0057.

⁵⁷. Afrasiyab Gul and Khawar Ali Shah, "Policy Insights to Maritime Economy in Pakistan," *PIDE*, 2021, <https://pide.org.pk/research/policy-insights-to-maritime-economy-in-pakistan/#:~:text=lt%20basically%20refers%20to%20leveraging>.

⁵⁸. John Elkington, "Towards the Sustainable Corporation: Win-Win-Win Business Strategies for Sustainable Development," *California Management Review* 36, no. 2 (January 1994): 90–100, doi:10.2307/41165746.

⁵⁹. Hanan Alhaddi, "Triple Bottom Line and Sustainability: A Literature Review," *Business and Management Studies* 1, no. 2 (April 3, 2015), doi:10.11114/bms.v1i2.752.

⁶⁰. World Bank, "The Potential of the Blue Economy: Increasing Long-Term Benefits of the Sustainable Use of Marine Resources for Small Island Developing States and Coastal Least Developed Countries," n.d., <https://openknowledge.worldbank.org/handle/10986/26843>.

structured in-depth interviews were conducted for data collection. This technique has been employed by different authors.^{61,62} It provides direction to the study participants, and at the same time, they can freely express their understanding of a particular topic.⁶³ Owing to COVID-19 restrictions, the researchers used Zoom Meeting software to schedule virtual meetings and record expert insights. However, five participants preferred to provide their written responses via email. The average duration of each interview was forty (40) minutes. The researchers took notes and recorded interviews to avoid misconceptions.⁶⁴ To ensure anonymity of the participants, their real names have been swapped with tags like P1, P2, P3, where “P stands for Participant”. After transcription of interviews, the researchers performed a thematic analysis (TA) of the primary data. While outlining different viewpoints, TA assists in extracting meaning from the discussion patterns of the participants. TA procedure scrutinizes the interview text by gathering and classifying text portions indicating particular themes and patterns of interviews and further categorizing different themes that significantly describe a research phenomenon.⁶⁵ Therefore, the researchers followed the guidelines of Braun and Clarke for TA.⁶⁶ TA is employed for summarizing and extracting meaning from the interview discussion of

⁶¹. Rosanna Carver, “Lessons for Blue Degrowth from Namibia’s Emerging Blue Economy,” *Sustainability Science* 15, no. 1 (December 23, 2019): 131–43, doi:10.1007/s11625-019-00754-0.

⁶². Christina Hoerterer *et al.*, “Stakeholder Perspectives on Opportunities and Challenges in Achieving Sustainable Growth of the Blue Economy in a Changing Climate,” *Frontiers in Marine Science* 6 (January 14, 2020), doi:10.3389/fmars.2019.00795.

⁶³. P. Gill *et al.*, “Methods of Data Collection in Qualitative Research: Interviews and Focus Groups,” *British Dental Journal* 204, no. 6 (March 2008): 291–95, doi:10.1038/bdj.2008.192.

⁶⁴. Cindy Van Der Wal, Sharen Nisbet, and John Haw, “A Qualitative Exploration of the Causes and Consequences of Workplace Bullying in the Australian Hospitality Industry,” *Journal of Quality Assurance in Hospitality & Tourism*, August 29, 2020, 1–22, doi:10.1080/1528008x.2020.1814934.

⁶⁵. Virginia Braun and Victoria Clarke, “Using Thematic Analysis in Psychology,” *Qualitative Research in Psychology* 3, no. 2 (2006): 77–101, doi:10.1191/1478088706qp063oa.

⁶⁶. *Ibid*

the participants and has been utilized extensively by different researchers.⁶⁷ Being a popular qualitative data analysis technique, TA also helps avert researchers' bias towards the study findings.⁶⁸ The study also utilized multiple secondary data sources: peer-reviewed research papers, books, policy briefs, concept papers, commentaries, institutional reports, government publications, multiple websites, conference proceedings, media clippings, newspaper articles, blue economy policy frameworks and models, student dissertations, etc.

9. Thematic FOCI

The study has explored several perspectives relevant to the BE and SD in the context of Pakistan. After transcribing the interviews, the researchers identified and extracted the themes through thematic analysis using inductive reasoning. These steps include zero coding, first-order coding, and second-order coding. Subsequently, the identified themes were further reviewed by two experts of the blue domain. They showed their satisfaction, and as per their feedback, the following three themes were finalized for discussion: BE gears towards 3BL; Reciprocity between BE and SD; and Prospects and Challenges of BE and SD in Pakistan. Each theme is discussed below:

10. Findings, Discussion, and Analysis

As evidenced from literature, BE needs to be conceptualized in its specific context because every country has unique socio-economic and geostrategic dynamics and ecological perspectives.⁶⁹ Therefore, the experts were asked to share their views about BE in the context of Pakistan. The expert insights confirm that contextualizing is

⁶⁷. Amandeep Dhir *et al.*, "Food Waste in Hospitality and Food Services: A Systematic Literature Review and Framework Development Approach," *Journal of Cleaner Production* 270 (July 2020): 122861, doi:10.1016/j.jclepro. 2020.122861.

⁶⁸. Shelagh K. Mooney, Candice Harris, and Irene Ryan, "Long Hospitality Careers – a Contradiction in Terms?," *International Journal of Contemporary Hospitality Management* 28, no. 11 (November 14, 2016): 2589–2608, doi:10.1108/ijchm-04-2015-0206.

⁶⁹. Poonam Choudhary *et al.*, "Empowering Blue Economy: From Underrated Ecosystem to Sustainable Industry," *Journal of Environmental Management* 291 (August 2021): 112697, doi:10.1016/j.jenvman.2021.112697.

essential for developing a coherent approach towards BE and SD in Pakistan. One of the participants highlighted this notion that:

“Although the BE has diverse components, Pakistan’s BE is presently primarily dependent on fisheries, maritime transport, and ports (P3)”.

“These factors are unique so the nation’s ability to invest or fall investment funding to make things happen and so on. Hence, to say that one size fits all may not work for the BE (P12)”.

“Definitions aside, this much is certain: BE stands for sustainability, environmental preservation, social inclusion, and well-being of the people in general (P5).”

The above stance of the experts can also be confirmed from the recent studies on BE.⁷⁰⁷¹⁷²⁷³⁷⁴⁷⁵⁷⁶

⁷⁰. Mialy Andriamahefazafy *et al.*, “The Paradox of Sustainable Tuna Fisheries in the Western Indian Ocean: Between Visions of Blue Economy and Realities of Accumulation,” *Sustainability Science* 15, no. 1 (December 23, 2019): 75–89, doi:10.1007/s11625-019-00751-3.

⁷¹. John R. Childs and Christina C. Hicks, “Securing the Blue: Political Ecologies of the Blue Economy in Africa,” *Journal of Political Ecology* 26, no. 1 (July 21, 2019): 323–40, doi:10.2458/v26i1.23162.

⁷². Andrés M. Cisneros-Montemayor *et al.*, “Social Equity and Benefits as the Nexus of a Transformative Blue Economy: A Sectoral Review of Implications,” *Marine Policy* 109 (November 2019): 103702, doi:10.1016/j.marpol.2019.103702.

⁷³. Mani Juneja *et al.*, “Contextualising Blue Economy in Asia-Pacific Region.” (2021).

⁷⁴. Frances Onditi, *Illusions of Location Theory: Consequences for Blue Economy in Africa*, *Vernonpress.com* (Vernon Press, 2021), 193, <https://vernonpress.com/book/1084>.

⁷⁵. Michelle Voyer *et al.*, “Assessing Policy Coherence and Coordination in the Sustainable Development of a Blue Economy. A Case Study from Timor Leste,” *Ocean & Coastal Management* 192 (July 2020): 105187, doi:10.1016/j.ocecoaman.2020.105187.

⁷⁶. Michelle Voyer *et al.*, “Shades of Blue: What Do Competing Interpretations of the Blue Economy Mean for Oceans Governance?,” *Journal of Environmental Policy & Planning* 20, no. 5 (May 15, 2018): 595–616, doi:10.1080/1523908x.2018.1473153.

Theme 1: Blue Economy Gears Towards Balancing the Triple Bottom Line (3BL): People, Planet and Prosperity

Broadly, there was a consensus among the participants that BE covers social, economic, and environmental aspects; therefore, it gears towards balancing the triple bottom lines of sustainability. The discussion patterns entail that BE prioritizes the components of 3BL together without prioritizing one over the other. It doesn't simply concentrate on economic growth and development but also ruminates its core environmental conservation and social equity. While contextualizing the notion of BE and SD in Pakistan, the study participants explained that:

a. Blue Economy is an Emerging Economic Frontier: The primary data describes BE as a new economic paradigm that thoroughly covers the prosperity component of the 3BL, as elaborated below:

“BE is a viable and prudent use of oceans and other water resources for the economic development of a country the blue economy is a critical part of any maritime country's economy (P3).”

“BE is an unprecedented window of opportunity and prosperity... to add value and diversify their livelihoods and income streams...(P2).”

“It is an ocean-based economic model (P4).”

Similarly, one of the participants remarked that:

“All economic activities related to oceans, seas, and coasts are known as BE. It covers a wide range of interlinked established and emerging sectors related to the maritime domain... the idea of oceans contributing to the economy isn't new; oceans have been contributing to the global economy for years. What has changed is the focus from profit to sustainability (P1).”

b. Blue Economy Promotes Social Inclusion: Like economic growth and development, social equity is one of the core elements of the BE that endorses the people aspect of the 3BL. The participants viewed that:

“It is a concept that seeks to promote...social inclusion and the preservation of livelihoods (P1).”

“BE improves human well-being and social equity (P8).”

“The way forward is through keeping the indigenous population at a central position with regards to future development and attainment of shifting knowledge and skills needs (P2).”

c. Blue Economy Ensures Environmental Sustainability: The participants shared that growing anthropogenic activities across oceans and coastal belts lead to catastrophic effects on the marine ecosystem and overall environmental degradation. Whereas respecting the planetary boundaries is one of the core objectives of the SD. Hence, BE makes sure that such boundaries are not crossed. In that way, BE poises the planet aspect of the 3BL. The participants discussed that:

“From the perspective of opportunity, BE creates prosperity while optimally utilizing the ocean space for regenerative activities (P12)”.

“... the sustainable use and management of resources can aid in reducing pressures on valuable ecological services and marine resources, and increase resilience to impacts of climate change, natural disasters and food insecurity (P2)”.

In some cases, unsustainable practices have brought havoc to this natural capital as one participant implored that:

“Sustainability means continuity through conservation. Therefore BE development should not be destructive to natural resources (P9)”.

A study exploring the links between BE and SD also enlightens that BE encompasses all three components of SD and ensures inclusive growth through the ocean and its potential.⁷⁷ Therefore, BE is a new economic frontier that deems oceans as “shared development spaces” geared towards balancing the 3BL, as evidenced in the literature.⁷⁸⁷⁹ It is a sustainable economic order with its inclusive approach towards people, the planet, and prosperity.⁸⁰⁸¹⁸² The above discussion reveals that Pakistan can cash in on its blue potential to balance its 3BL with a concerted integrated approach.

Theme 2: Reciprocity between Blue Economy and Sustainable Development

The interview patterns inform a reciprocal relationship between BE and SD of Pakistan. The participants agreed that both are intertwined and interdependent. That’s why BE mirrors the idea of SD, whereby we look to ensure the sustainable utilization of oceanic resources in the best interest of future generations. The participants viewed that:

a. Blue Economy and Sustainable Development are Intertwined:
The study findings illustrate a firm knot between both in the sense

⁷⁷. David Griggs *et al.*, “Sustainable Development Goals for People and Planet,” *Nature* 495, no. 7441 (March 2013): 305–7, doi:10.1038/495305a.

⁷⁸. Jens Christiansen, “Fixing Fictions through Blended Finance: The Entrepreneurial Ensemble and Risk Interpretation in the Blue Economy,” *Geoforum* 120 (March 2021): 93–102, doi:10.1016/j.geoforum.2021.01.013.

⁷⁹. Opeyemi Adewale Gbadegesin and Simisola Akintola, “CHARTING the COURSE for a BLUE ECONOMY in NIGERIA: A LEGAL AGENDA,” *Journal of Environmental Law & Policy* 001, no. 001 (May 15, 2021): 6–25, doi:10.33002/jelp001.01.

⁸⁰. Michael Fabinyi *et al.*, “China’s Blue Economy: A State Project of Modernisation,” *The Journal of Environment & Development* 30, no. 2 (April 22, 2021): 127–48, doi:10.1177/1070496521995872.

⁸¹. Raj Mohabeer and John Laing Roberts, “Promoting the Blue Economy: The Challenge,” *Shaping the Future of Small Islands*, November 24, 2020, 251–68, doi:10.1007/978-981-15-4883-3_14.

⁸². Marleen S. Schutter and Christina C. Hicks, “Networking the Blue Economy in Seychelles: Pioneers, Resistance, and the Power of Influence,” *Journal of Political Ecology* 26, no. 1 (July 27, 2019): 425–47, doi:10.2458/v26i1.23102.

that sustainability represents one of the critical objectives of BE. The participants explained that:

“The entire world consists of one-third of the water, which implies that except the central Asian countries that are landlocked, the rest of the world enjoys a proper flow of water in the form of rivers, streams, and sea. Sea connects the entire world. So, most of the states have God-gifted natural resources in the form of water. This aspect of natural resources generates trade, food, energy, transport, resources, and all other important elements necessary for the development and growth of other countries. Thus, the BE is a pathway towards SD that is crucial for the (sustainable) development of Pakistan (P4)”.

“Blue economy is the vehicle for sustainable development (P12)”.

While emphasizing the sustainable blue practices in the context of Pakistan, one participant said that:

“BE and SD are closely related. Pakistan needs resource development on a sustainable scale, which benefits its people for generations to come. We do not want to burn away our precious resources for short-term gains (P3)”.

This reciprocal relationship has been discussed at length in different contextual settings across the globe.⁸³⁸⁴⁸⁵⁸⁶⁸⁷⁸⁸⁸⁹⁹⁰ The

⁸³. Sulan Chen, Charlotte De Bruyne, and Manasa Bollempalli, “Blue Economy: Community Case Studies Addressing the Poverty–Environment Nexus in Ocean and Coastal Management,” *Sustainability* 12, no. 11 (June 6, 2020): 4654, doi:10.3390/su12114654.

⁸⁴. Cisneros-Montemayor *et al.*, Social Equity and Benefits

⁸⁵. Robin Kimmerer, “Restoration and Reciprocity: The Contributions of Traditional Ecological Knowledge,” *Human Dimensions of Ecological Restoration*, 2011, 257–76, doi:10.5822/978-1-61091-039-2_18.

⁸⁶. Samantha Muller, Steve Hemming, and Daryle Rigney, “Indigenous Sovereignities: Relational Ontologies and Environmental Management,” *Geographical Research* 57, no. 4 (August 22, 2019): 399–410, doi:10.1111/1745-5871.12362.

study bears testimony that the BE and SD complement each other, and Pakistan can't afford their mutual exclusivity given their compounding nature.

b. Nexus between Blue Economy and Sustainable Development Goals (SDGs): SDGs are a global blueprint for inclusive development. In the context of BE, it focuses on enhancing the nations' commercial doles through the viable usage of marine resources and their integrated management at scale. The study findings also sanction previous research proposing a nexus between BE and SDGs, especially "SDG 14: life below water" and "SDG 17: partnerships for goals."

The participants viewed that:

"SDG 14 and SDG 17 are interlinked, which offer more vistas to be worked upon (P6)".

"It (BE) supports all of the SDGs.... and recognizes that it will require ambitious, coordinated actions to sustainably manage, protect and preserve our ocean now, for the sake of present and future generations. It is not just about market opportunities but also provides the protection and development of more intangible 'blue' resources such as traditional ways of life, carbon sequestration, and coastal resilience to help vulnerable states mitigate the often devastating effects of climate change (P2)".

⁸⁷. Saleem Mustafa and Abentim Estim, *Blue Growth and Blue Economy in the Context of Development Policies and Priorities in Malaysia*, Google Books (Universiti Malaysia Sabah Press, 2019), <https://books.google.com.pk/books?hl=en&lr=&id=79lvEAAAQBAJ&oi=fnd&pg=PR1&dq=+Mustafa>.

⁸⁸. Toste Tanhua *et al.*, "Nourishing Blue Economy and Sharing Ocean Knowledge," *Oceanrep.geomar.de*, September 1, 2021, <https://oceanrep.geomar.de/54353/>.

⁸⁹. Alejandro Vega-Muñoz *et al.*, "How to Measure Environmental Performance in Ports," *Sustainability* 13, no. 7 (April 5, 2021): 4035, doi:10.3390/su13074035.

⁹⁰. Leroy White and Gregory John Lee, "Operational Research and Sustainable Development: Tackling the Social Dimension," *European Journal of Operational Research* 193, no. 3 (March 2009): 683–92, doi:10.1016/j.ejor.2007.06.057.

SDGs can also be used as a framework for developing and evaluating the effectiveness of the BE. There is strong advocacy of this approach across BE literature, as several scholars and international bodies have endorsed this idea.⁹¹⁹²

In a systematic literature review published between 2005 and 2019 comprising 876 articles, Van Zanten and van Tulder claimed that service activities predominantly positively impact SDGs, but industrial, agricultural, and manufacturing activities harm their progression.⁹³⁹⁴ Since BE encompasses all sectors, integrating and balancing threefold dimensions of SD (economic, social, and environmental) is its prime element.⁹⁵ Economist Intelligence Unit (2015) underscored that “economic activity’s environmental risks and ecological damage are mitigated or significantly reduced in a BE”. As far as the case of Pakistan is concerned, a topical study steered by Niazi *et al.* established that Pakistan had shown abysmal performance concerning SDGs.⁹⁶ The present study’s findings reveal that if Pakistan wants to make significant headway towards SDGs, it has to patronize its BE with the right policies. Otherwise, a “Blue Pakistan” for all will remain a dream.

⁹¹. Narissa Bax *et al.*, Ocean Resource Use

⁹². Ki-Hoon Lee, Junsung Noh, and Jong Seong Khim, “The Blue Economy and the United Nations’ Sustainable Development Goals: Challenges and Opportunities,” *Environment International* 137 (April 2020): 105528, doi:10.1016/j.envint.2020.105528.

⁹³. Jan Anton van Zanten and Rob van Tulder, “Towards Nexus-Based Governance: Defining Interactions between Economic Activities and Sustainable Development Goals (SDGs),” *International Journal of Sustainable Development & World Ecology*, May 25, 2020, 1–17, doi:10.1080/13504509.2020.1768452.

⁹⁴. Rob Van Tulder *et al.*, “The UN’s Sustainable Development Goals: Can Multinational Enterprises Lead the Decade of Action?,” *Journal of International Business Policy* 4 (February 16, 2021), doi:10.1057/s42214-020-00095-1.

⁹⁵. Bank, *The Potential of the Blue Economy*

⁹⁶. Abdul Aziz Khan Niazi *et al.*, “(PDF) Evaluation of Global Goals Promoting Sustainability: A Study of Selected Sixty-Eight Countries,” *Research Gate*, April 2021, https://www.researchgate.net/publication/351108327_Evaluation_of_Global_Goals_Promoting_Sustainability_A_Study_of_Selected_SixtyEight_Countries.

Theme 3: Prospects and Challenges of Blue Economy and Sustainable Development in Pakistan

Several prospects and challenges were identified from the discussion patterns of the participants. To achieve a smooth transition towards sustainability, Pakistan needs to convert these prospects into transformative opportunities and draw tangible actions to overcome the underlying challenges. These are discussed below:

11. Prospects of Blue Economy and Sustainable Development

Being blessed with great blue potential, Pakistan has enormous prospects towards SD. Broadly, these prospects can be categorized into economic, social, and environmental extents.

a. Economic Prospects: The participants discussed several blue avenues contributing to Pakistan's economic growth and development. One participant said that:

“Pakistan's BE brings promising potential brimming with transformative opportunities for inclusive economic growth and shared prosperity across several sectors including fisheries (seafood); marine aquaculture; trade & shipping; shipbuilding, shipbreaking, and ship recycling; marine bio-diversity; ocean resource-extraction; blue/coastal tourism; marine spatial planning; and oceanic renewable energy, etc. With optimal use of these resources, the country can attract huge foreign direct investment (FDI), and save the foreign reserves (P1)”.

Another participant expressed that:

“Pakistan needs to diversify and concentrate on the BE to create job opportunities in fisheries, aquaculture, shipping, tourism, and energy production. On account of its coastal areas, Pakistan has massive potential to discover the blue economy by promoting renewable energy, maritime transport, and tourism (P10)”.

The prospects highlighted by the participants are congruent with the previous studies,⁹⁷ and are thoroughly explained in the preceding section under “BE Potential of Pakistan.” Through sustainable utilization of its blue resources, Pakistan can realize economic dividends for improving its fiscal health.

b. Social Prospects: The study participants believed that BE could be instrumental in the social uplift of the local communities and marginalized segments of society, particularly women and youth. Further, BE can prove itself a paradigm shift in bridging the socio-economic incongruences in Pakistan, as happened in Bangladesh.⁹⁸ One of the participants observed that:

“BE ensures... improved livelihoods... empowerment of indigenous population especially women and youth. Through an enabling environment and improved livelihoods, the prevalent socio-economic inequalities will be curtailed to a greater extent (P11).”

Henceforth, it is high time to pursue the blue growth agenda more succinctly as BE offers long-term shared prosperity. Predominantly, getting advantage of this natural capital becomes more conclusive amid the prevailing pandemic of COVID-19 that has brought havoc to economies and societies globally.⁹⁹¹⁰⁰ While discussing the plight of coastal communities in Balochistan, one participant remarked that:

⁹⁷. Muhammad *et al.*, “Pakistan’s Untapped Blue Economy Potential,” 73-75

⁹⁸. Jobayer Mia, Abidul Islam, and Mansura Akter, “(PDF) Contribution of Ganges-Brahmaputra Delta for Developing the Sustainable Blue Economy in Bangladesh,” *Research Gate*, June 2021, https://www.researchgate.net/publication/353314433_Contribution_of_Ganges-Brahmaputra_Delta_for_Developing_the_Sustainable_Blue_Economy_in_Bangladesh.

⁹⁹. Mario Biggeri, “A ‘Decade for Action’ on SDG Localisation,” *Journal of Human Development and Capabilities*, October 12, 2021, 1–7, doi:10.1080/19452829.2021.1986809.

¹⁰⁰. Tulder *et al.*, “The UN’s Sustainable Development Goals”

“It (BE) can transform Balochistan from a backward and underdeveloped province to the most promising area (P6)”.

Another participant gave a detailed account of the situation and said that:

“Balochistan has vast untapped (blue) potential which can be utilized through the indigenous population and previously underrepresented groups such as women and youth. Generally, the livelihoods of the local population of the coastal belt of Gwadar comprise traditional industries linked to the ocean. A blue economic growth can help add value to existing jobs and create entirely new prospects (P2)”.

Likewise, blue tourism has massive potential to bring a permissive revolution in the lives of the local communities across the coastal belts of Pakistan.¹⁰¹ It would not only bring cultural harmony but will also cement national integration.

c. Environmental Prospects: “BE promises environmental sustainability that is otherwise missing in business-as-usual (BAU) models. Effective use of oceanic resources preserves not only marine biodiversity and ecosystem health but also generates freshwater and protects the coastal environment (P5)”.

Moreover, the role of BE in battling climate change (through adaptation and mitigation) has already been acknowledged and further pursued intently by the world.¹⁰²¹⁰³¹⁰⁴ With gradual

¹⁰¹. Hamzo Khan Tagar *et al.*, “Economic Growth of Pakistan in 21 St Century and the Use of ‘Blue Economy’ Resources for Sustainability,” *European Journal of Social Sciences* 62, no. 2 (2021): 38–49, https://www.europeanjournalofsocialsciences.com/issues/PDF/EJSS_62_2_04.pdf.

¹⁰². Bădîrcea *et al.*, “Connecting Blue Economy,” 4600

¹⁰³. Patrick Karani and Pierre Failler, “Comparative Coastal and Marine Tourism, Climate Change, and the Blue Economy in African Large Marine Ecosystems,” *Environmental Development*, September 2020, 100572, doi:10.1016/j.envdev.2020.100572.

¹⁰⁴. Sarker, S., Hussain, F. A., Assaduzzaman, M., & Failler, P. (2019). Blue economy and climate change: Bangladesh perspective. *Journal of Ocean and Coastal Economics*, 6(2), 6.

maritime awareness,¹⁰⁵ the government of Pakistan has initiated explicit projects in different parts of the coastal areas in Sindh and Balochistan to tackle the environmental and ecological issues.¹⁰⁶¹⁰⁷ Hence, it is evident that when the environmental aspect of the SD is taken care of, the other two aspects will also be invigorated. It can be concluded with remarks from one of the participants that:

“As Pakistan paces towards prosperous coastal development in the Gwadar region of Balochistan, an important consideration is that of inclusive and sustainable growth, which deliberates on the nexus between the economic, social, and environmental aspects (P2)”.

12. Challenges of Blue Economy and Sustainable Development

Having enormous growth projections, Pakistan’s BE is entangled in a myriad of challenges that can be widely labelled as financial, social, environmental, and political, legal, and security challenges. The participants believed that a blue dream would not be realized unless cohesive interventions addressed these issues.

a. Financial Challenges: Among the critical financial challenges, lack of funding and financing, lack of incentives to the private sector, poor trade capacity, and prevalent exploitative practices (BAU) is more daunting. One participant remarked that:

¹⁰⁵. Sohail Ahmad Azmie, “Maritime Awareness in Pakistan,” *CISS Insight Journal* 5, no. 4 (December 27, 2017): 62–85, <http://journal.ciss.org.pk/index.php/ciss-insight/article/view/40>.

¹⁰⁶. Daanish Mustafa and Lauren Reid, “Negotiating Known Unknowns 2,” 2012, https://wwfasia.awsassets.panda.org/downloads/better_adaptation_practices.pdf.

¹⁰⁷. Johannes M. Waldmüller, Hameed Jamali, and Nelson Nogales, “Operationalizing Sustainable Development Goals in Vulnerable Coastal Areas of Ecuador and Pakistan: Marginalizing Human Development?,” *Journal of Human Development and Capabilities* 20, no. 4 (September 17, 2019): 468–85, doi:10.1080/19452829.2019.1666810.

“Lack of financing and inaccessibility to monetary channels is adversely hampering the realization of blue growth agenda in developing countries like Pakistan (P6)”.

While highlighting the poor financial capacity of the developing countries, one participant observed that:

“The developing nations (like Pakistan) have been left in the lurch due to the insufficient financial, human, and technological resources that are crucial in making this (BE) happen. Without proper capacity mechanisms, developing nations cannot benefit from their BE and sustainably sneak resources. In that case, they might be heading towards becoming a colonial state of the western powers. The concept of BE is very noble. But just like sustainable development, is it affordable for developing nations; this is the critical question to ask. Unfortunately, it is a continuation of new imperialism (P11)”.

In the same vein, capacitating the BE is crucial as:

“This lack of capacities and resources will need to be addressed to allow the blue economy to achieve economic diversification, job creation, poverty reduction, and economic development in the developing world (P10)”.

The participants viewed that due to less attention of the policymakers, the blue riches have remained untapped. As per the Economic Survey of Pakistan 2020-21, with a 2.01% share in agriculture, the fishing sector in Pakistan only contributes 0.39% to the GDP.¹⁰⁸ Likewise, the contribution of marine fisheries is less than 1%.¹⁰⁹

¹⁰⁸. GOP, “| Ministry of Finance | Government of Pakistan |,” *Www.finance.gov.pk*, 2021, https://www.finance.gov.pk/survey_2021.html.

¹⁰⁹. Rao, “Elements of Blue Economy”

Further, the country faces financial resource constraints.¹¹⁰ There is a huge gap in exploring the marine potential, particularly in the case of emerging blue sectors. But this requires scientific and technological interventions and physical infrastructure, and the right human resources – primarily all depend on the financial capacity – hence no significant advancement is in the offing.

In contrast, such a phenomenon needs to be tackled through FDI.¹¹¹ The monetary challenges highlighted by the participants are also synced with a recent study.¹¹² There is substantial research evidence that financial hurdles are one of the core issues a BE is confronted with.¹¹³¹¹⁴¹¹⁵¹¹⁶

The world has also devised several solutions to tackle this issue, e.g., innovative financing for African BE and blended financial practices.¹¹⁷¹¹⁸ Pakistan can take advantage of the global and regional best practices where the countries have promoted their blue domain despite having poor financial muscle at home. Some brilliant examples identified by the participants are Seychelles,

¹¹⁰. Muhammad, "The Pakistan's Untapped Blue Economy," 63-73.

¹¹¹. Josephine Mabuti Nthia, "Blue Economy and Collaborative Strategies: A Critique of Multi-National Enterprises," *Journal of Global Business Insights* 6, no. 1 (March 2021): 40–54, doi:10.5038/2640-6489.6.1.1146.

¹¹². U. Rashid Sumaila *et al.*, "Financing a Sustainable Ocean Economy," *Nature Communications* 12, no. 1 (June 8, 2021): 3259, doi:10.1038/s41467-021-23168-y.

¹¹³. Naveed Ahmad *et al.*, "Mapping the Obstacles to Brownfield Redevelopment Adoption in Developing Economies: Pakistani Perspective," *Land Use Policy* 91, no. C (2020), <https://ideas.repec.org/a/eee/lauspo/v91y2020ics0264837719307094.html>.

¹¹⁴. Brandon J. Bethel, Yana Buravleva, and Decai Tang, "Blue Economy and Blue Activities: Opportunities, Challenges, and Recommendations for the Bahamas," *Water* 13, no. 10 (May 17, 2021): 1399, doi:10.3390/w13101399.

¹¹⁵. Md. Simul Bhuyan *et al.*, "Blue Economy Prospect, Opportunities, Challenges, Risks, and Sustainable Development Pathways in Bangladesh," October 22, 2021, doi:10.21203/rs.3.rs-1001892/v1.

¹¹⁶. Vijay Sakhuja, "Harnessing the Blue Economy," *Indian Foreign Affairs Journal* 10, no. 1 (2015): 39–49, <https://www.jstor.org/stable/45341010>.

¹¹⁷. Donald L Sparks and Torsten Thiele, *The Blue Economy in Sub-Saharan Africa: Working for a Sustainable Future* (New York: Routledge, 2021).

¹¹⁸. Christiansen, "Fixing Fictions," 93–102

Mauritius, Bangladesh, Kenya, and other nations across the African Continent.

b. Social Challenges: A disoriented view towards ocean resources, the continental mindset of the ruling elite, mass unawareness, poor human resource capacities, lack of specialized training and institutions, and exclusion of marginalized segments from the decision-making in the blue domain, etc., are amongst the significant social challenges of the BE in Pakistan. A recent study highlighted that vagueness in BE vision may lead the world towards a food-insecure future.¹¹⁹ A participant viewed that:

“The country (Pakistan) is suffering from the phenomenon of sea-blindness due to which the people are not aware of the benefits being offered by BE... .. sincerity, devotion, and leadership are required for leveraging the blue benefits (P9)”.

Further, lack of cooperation and disintegrated efforts are among the main hurdles due to which BE is not delivering:

“The people, countries, and the organizations are working in silos. And that is the very reason that the world is not heading to achieve the sustainable development agenda of 2030. What we need to do is to create synergies (P12)”.

Furthermore, ocean illiteracy adds to the sufferings of the locals whose livelihood is dependent on the blue resources. It was pointed out that:

“Unawareness, deficient educational and training capacities, and sufferings of the local population residing in coastal areas are some of the factors that are continuously hampering the blue development in the country (P5)”.

¹¹⁹. Anna K. Farmery *et al.*, “Blind Spots in Visions of a ‘Blue Economy’ Could Undermine the Ocean’s Contribution to Eliminating Hunger and Malnutrition,” *One Earth* 4, no. 1 (January 2021): 28–38, doi:10.1016/j.oneear.2020.12.002.

The above findings are consistent with different studies conducted by past researchers.¹²⁰¹²¹¹²² The remedy for ending the exclusion of the local communities in the decision-making processes regarding BE lies with promoting blue justice through the right policies and institutional arrangements.¹²³¹²⁴¹²⁵

c. Environmental Challenges: While talking about the environmental hazards faced by the BE, the participants gave a comprehensive account based on their field experiences and academic knowledge. They highlighted several environmental externalities that include: sea (marine pollution); waste disposal and sewage supplies towards the seas; acidification of the ocean; contaminated vessels; underdeveloped aquaculture; low-quality food for marine species; floods and other natural disasters; vulnerability of the locals to climate change and disaster risks, and other anthropogenic invasions are limiting the opportunities that can turn around different sectors of the BE.

¹²⁰. Lisa M. Campbell *et al.*, "From Blue Economy to Blue Communities: Reorienting Aquaculture Expansion for Community Wellbeing," *Marine Policy* 124 (February 2021): 104361, doi:10.1016/j.marpol.2020.104361.

¹²¹. John Morrissey, "Coastal Communities, Blue Economy and the Climate Crisis: Framing Just Disruptions," *The Geographical Journal*, October 27, 2021, doi:10.1111/geoj.12419.

¹²². Novaglio *et al.*, "Deep Aspirations."

¹²³. Nathan Andrews *et al.*, "Oil, Fisheries and Coastal Communities: A Review of Impacts on the Environment, Livelihoods, Space and Governance," *Energy Research & Social Science* 75 (May 2021): 102009, doi:10.1016/j.erss.2021.102009.

¹²⁴. Nathan James Bennett *et al.*, "Blue Growth and Blue Justice: Ten Risks and Solutions for the Ocean Economy," *Marine Policy* 125 (March 2021): 104387, doi:10.1016/j.marpol.2020.104387.

¹²⁵. Benjamin Cuker and Deidre Gibson, *Chapter 23 - Building an Inclusive and Equitable New Blue Economy*, ed. Liesl Hotaling and Richard W. Spinrad, *ScienceDirect* (Elsevier, 2021), 469–77, <https://www.sciencedirect.com/science/article/pii/B9780128214312000469>.

One participant underlined that:

“The challenges for BE in Pakistan remain overfishing (primarily through foreign trawlers), waste disposal, and coastal environmental protection (P3)”.

While accentuating the issue of environmental externalities, another participant said that:

“Traditional economic activities related to the ocean and sea are predominantly unsustainable and extractive; moreover, they externalize the environmental costs (P2)”.

Moreover, there are talks around seabed mining, offshore hydrocarbon, and oil companies divesting their onshore infrastructures offshore. If appropriate policies are not in place, the world will move away from polluting the land to polluting the ocean. The insights shared by the participants regarding different environmental challenges on the face of BE are consistent with those highlighted in the recent literature.¹²⁶ Pakistan needs to prepare its indigenous blue solutions to tackle the underlying environmental issues in the blue domain.

d. Political, Legal, and Security Challenges: The participants described a strong link between BE’s political, legal, and security aspects. They further remarked that the lack of political will is one of its foremost challenges. Policymakers are unaware of the sea potential. Hence, ownership of the blue agenda is lacking.

One of the participants stated that:

“The biggest challenge Pakistan faces is that its policymakers are clueless about what the blue economy connotes. They tend to equate it with the maritime economy in general. So, despite declaring 2020 as the year of the Blue Economy, the country has

¹²⁶. Martin C. Hänsel and Jeroen C. J. M. Bergh, “Taxing Interacting Externalities of Ocean Acidification, Global Warming, and Eutrophication,” *Natural Resource Modeling*, June 18, 2021, doi:10.1111/nrm.12317.

lurched backward rather than moving forward. So, unless the objectives of a BE are clearly understood... the prospects for BE and SD would remain grim (P5).”

Another participant also shared similar thoughts:

“Challenges are various starting from lack of inclusive policies, ignoring native communities, poor political will, and social distrust resulting into security crisis (P14)”.

Further, it was discussed that:

“Non-availability of research, policy, planning, execution of interventions by professionals...transfer of technology, coordination with international development institutions, funding, etc. are challenges (P9)”.

The same was evidenced from the literature that most of the studies conducted in Pakistan focused on the maritime domain's security aspects rather than linking BE with sustainability. It obliges to promote research-policy-practice nexus and interdisciplinary research agendas.

That’s why, despite having fair prospects, the country is not making headway compared to other countries in the region. As one participant rightly remarked that:

“The first thing you need to have in place is a political will. It’s about having a desire to do it. If you could not get that desire at the senior level in the nation, it would not happen. For leveraging the best advantage of the BE, the right policy landscape and government landscape, need to be in place. Otherwise, it would be individual projects rather than strategic goals (P12)”.

It’s pretty interesting to note that despite the declaration of “2020 as the Year of Blue Economy”, an integrated “National Blue Economy Policy” is yet to see the dawn of the day. Although the preliminary work for policy development has been started, there is

a long way to go. But lack of integration across BE sectors and lack of coherence between governmental institutions aggravate the situation.

To another participant:

“The main challenge is the implementation (P11)”.

Policy capacity serves as a lynchpin towards achieving BE and SD. A similar kind of situation can also be observed in the case of African BE and across the BE paradigm.¹²⁷¹²⁸ Accordingly, both BE and maritime security are closely linked. If these are not in tandem with each other, the country won't be able to derive the benefits of the aspired blue vision towards sustainability.¹²⁹ The participants collectively stressed the grandiose importance of the legal framework and appropriate policy measures. Effective use of the sea lines of communication (SLOCs), especially chokepoints, and ensuring their security given the exorbitant interests of “regional and extra-regional powers” posing a significant threat to maritime security and national sovereignty. As aptly put by a participant that:

“Such challenges include effective use and protection of SLOCs, general security of the oceans, interests of regional and extra-regional powers, sea (blue) crimes... safety, security, and well-being of the workers at sea (P1)”.

Espousing the concept of maritime security with that of BE becomes even more critical in the wake of growing sea (blue)

¹²⁷. Eddy Akpomera, “Africa’s Blue Economy: Potentials and Challenges for More Locally Beneficial Development,” *Review of African Political Economy* 47, no. 166 (October 1, 2020): 651–61, doi:10.1080/03056244.2020.1853517.

¹²⁸. Felix Mallin and Mads Barbesgaard, “Awash with Contradiction: Capital, Ocean Space and the Logics of the Blue Economy Paradigm,” *Geoforum* 113 (July 2020): 121–32, doi:10.1016/j.geoforum.2020.04.021.

¹²⁹. Anja Menzel and Lisa Otto, “Connecting the Dots: Implications of the Intertwined Global Challenges to Maritime Security,” *Global Challenges in Maritime Security*, 2020, 229–43, doi:10.1007/978-3-030-34630-0_14.

crimes.¹³⁰¹³¹ Hence ensuring the safety, security, and well-being of the workers (seafarers) are among the significant legal and security concerns of the maritime nations including Pakistan. To this effect, the country needs to put titanic efforts across all financial, social, environmental, legal, political, institutional, and security spheres to bear out its national obligations and international commitments towards BE and SD.

13. Conclusion

Revered with prodigious blue potential and a geostrategic location, Pakistan can turn the tide towards balancing 3BL of sustainability. The study brings empirical evidence concerning the reciprocity between BE and SD. A strong political will coupled with a crystal clear BE vision is essential for a smooth blue transition towards sustainability. Pakistan needs an effective policy regime as it serves as a lynchpin in bluing the ocean. The study findings stress collaboration among stakeholders to effectively address several socio-economic, political, legal, institutional, security, and environmental challenges and convert them into transformative opportunities. More specialized educational, training, and research institutions must provide trained human resources against highly diversified blue jobs. The study also brings evidence from international and regional perspectives to build an indigenous blue economy model for Pakistan. It is high time to pursue the blue growth agenda more succinctly as BE offers long-term shared prosperity, social equity, and environmental sustainability. The time is now to exert concerted efforts for the prosperous blue future of Pakistan.

¹³⁰. Christian Bueger and Timothy Edmunds, "Blue Crime: Conceptualising Transnational Organised Crime at Sea," *Marine Policy* 119 (September 2020): 104067, doi:10.1016/j.marpol.2020.104067.

¹³¹. Paula Satizábal *et al.*, "Ethical Considerations for Research on Small-Scale Fisheries and Blue Crimes," *Fish and Fisheries*, July 5, 2021, doi:10.1111/faf.12590.

14. Policy Implications

The present study arrests the attention of the policymakers towards the unprecedented potential of the BE. The study brings evidence that until and unless the policymakers do not overcome the phenomenon of sea blindness and provide institutionalized support to different sectors of the BE, its potential will remain untapped. Through strengthening institutional capacities, investing in human capabilities, technological, scientific, and infrastructural projects, empowering coastal communities and marginalized groups of society, especially women and youth, incentivizing the private sector, providing authentic, accurate, and timely data for making informed decisions, forging strategic partnerships with international and regional BE players, and promoting indigenous R&D agendas may help the country to reap the blue dividends.

15. Limitations and Future Research Directions

The study has employed a qualitative research design for exploring the role of BE in the SD of Pakistan and conducted semi-structured in-depth interviews with the experts of BE. Hence, the generalizations of the study results may be made carefully. The researchers recommend that quantitative studies containing a large sample comprising all stakeholders be conducted to explore the phenomenon further. Future researchers may also apply a different theoretical lens and conduct comparative studies in multiple regional and geographical settings.

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Maritime Security Dynamics of Archipelagic States: The Case of Maldives

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Abstract

Maldives is an archipelagic state situated in the birth place of maritime civilization- the Indian Ocean. In recent years, Maldives has seen a growing attraction towards its maritime space with the expanding economy fuelled by growing international tourism, shipping, overseas trade and fisheries. Owing to the strategic position of the country and its proximity to vital Sea Line of Communication (SLOC) that are infested with rising threats and crimes. Though Maldives does not have any territorial disputes with neighboring countries, the country is facing great challenges in dealing with narcotics, ERF and other non- traditional maritime threats especially environmental challenges. Maldives is facing various threats for her existence other than the issues faced due to climate changes. In order to meet these challenges it is proposed in this paper, the re-conceptualizing of Maldivian maritime management. An umbrella organization of Maritime Authority is proposed to synchronize the operations and information gathering of the Marine Police, Customs Services and Immigration department. Increased regional cooperation is proposed in order to tackle the collective non-traditional maritime security threats faced by the region as a whole. This paper does an extensive comparative analysis of the practices held in the regional and other archipelagic countries to draw lessons for Maldivian case study.

Keywords: Indian Ocean, Archipelagic State, Non-traditional Security, Maritime Threats

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1. Maritime Character of Maldives and Scope of the Study

Characterized by its surrounding vast seas, Maldives is a coastal state situated in the birthplace of the Maritime Civilization - the Indian Ocean. The very reason of its birth and evolution as a nation was seen through its important geographic position when sailors and traders who traversed the Indian Ocean stopped their vessels in these islands to take refuge from adverse weather conditions, where this eventually led to the settlement of its earliest inhabitants. Maldives was formed up by two chains of disconnected tiny islands, placed in north-south direction, the ocean is where all of its security and economic interests lie, either within or interlinked.¹ Marine resources are the country's main natural endowments and the seas are its climate regulator, transport route, and trade route of the nation. The reliance on the seas for sustenance and security defines the country's maritime identity.

This research work is intended to study and critically analyse only non-traditional maritime security threats and risks in the Indian Ocean which are detrimental to the security and future of Maldives. The research will not address traditional threats, and therefore security issues arising from political or military rivalry in the region are out of the scope of this research paper. Due to the ongoing restructuring of the country's Defence forces, this research becomes quite pertinent to provide essential policy recommendation for the new Defence doctrine to cope up with the emerging challenges to the maritime security of the country. For the purpose of this research a qualitative research study is conducted. Qualitative research compared to quantitative research

2. Threat Infestation and Maldives' Concern

The world has witnessed an evolving strategic environment in the IOR post- Cold War. The shift of focus from a Euro-Atlantic to the

¹ "Maldives History - Early Settlers, Conversion to Islam, Maldivian Heroes, The British Protectorate, Independence". Accessed 12 October 2019. <http://www.vermillionmaldives.com/maldives-history.htm>.

Indo-Pacific region and repositioning of global economic and military power in the Asian continent has resulted in significant political, economic and social changes in the Indian Ocean Region. Some of the drawbacks of this shift of global focus towards the Indian Ocean are seen in the form of evolving and increasing maritime threats. Maldives, as a small nation maintaining its non-aligned status in the world politics would not be directly affected by the power struggle among regional and extra-regional powers in the Indian Ocean. In other words, the real adversary of Maldives in the maritime domain is non-traditional maritime threats resulting from the changing geo-strategic environment.

Maldives is in dire need of modern approaches to maritime security, especially at this particular juncture of history as Maldives has embarked upon new economic ambitions with future development plans which are hinged to the maritime environment. Suppression of maritime threats and closing the threat gaps is absolutely essential for the success of these national aspirations and ensuring national security. It is believed to be more challenging for any nation to guarantee its territorial integrity, prosper and expand in the future, without appropriate measures against growing threats and challenges at sea. The transnational nature of these threats pose a great challenge to the countries across the region, and more so to small coastal countries like Maldives.

3. Non-traditional Threats for Maldives

According to various studies the non-traditional maritime threats to any archipelagic state are divided into three categories:

- i. Threats due to natural phenomena which includes, wave and tidal surge, Coastal erosion, flooding due to monsoon rain, extreme high winds threatening the vegetation and infrastructure and effects of climate change and sea level rise, including coral bleaching. Further he highlighted that these threats basically challenged physical existence of an island and therefore makes people to migrate for safer places causing other socio economic challenges.

- ii. Threats nefarious criminal activities and threats of non-state actors. These threats include religious extremism, radical cults, drug trafficking, illegal fisheries, environmental pollution, Sabotage to National infrastructure.
- iii. Impact of geo-strategic equation of Indian Ocean and Maldives Government's or Institution's involvement in the great powers rivalry. This could lead to potential militarization of Maldives and attract unwanted and unnecessary attention, making Maldives more vulnerable.

a. Piracy: This is a phenomenon which has evolved over the centuries and millions of dollars have been spent by the maritime community to overcome this challenge. Piracy for archipelagic states is a challenging threat to tackle as pirates can utilize multiple fronts to maintain an element of surprise. The overall security of maritime traffic throughout the region is a key strategic priority, for nations in and outside the IOR. The threat of piracy currently seems to be mainly around waters between the Red Sea and the Indian subcontinent and the South-East Asia.² Straits of Malacca and Singapore are highly infested, International Maritime Bureau (IMB) has given multiple cautionary notices to the travelers and merchant ships to remain vigilant when travelling through South East Asia and Indian sub-continent even in February 2020.³

² "Piracy Report Indian Ocean: Maldives, Mauritius, Seychelles", n.d. <https://www.onboardonline.com/industry-article-index/piracy-reports/piracy-report-indian-ocean-maldives-mauritius-seychelles/>.

³ Administrator. "Piracy & Armed Robbery Prone Areas and Warnings". Accessed 20 January 2020. <https://www.icc-ccs.org/index.php/piracy-reporting-centre/prone-areas-and-warnings>.

Figure 1: International Maritime Bureau live piracy map

Source: IMB live piracy map (<https://www.icccs.org/index.php/piracy-reporting-centre/live-piracy-map>)

There has been no case of piracy reported since 2011 in and around Maldives. However, there were 42 Somalis apprehended in different incidents between 2009 and 2011, found in small skiffs within the littorals of the Maldives. All the apprehended Somalis were handed over to International Committee of the Red Cross in 2014.⁴ Another foreseeable threat related to piracy is a huge large community of fishermen remain within the EEZ of Maldives with small fishing vessels with limited communication facilities yet they tend to approach the foreign vessels around their vicinity. These activities are a major source of concern as these activities can be mistaken as an act of piracy, which may result into legal action against them as well as it is likely that they may face life threatening consequences.

⁴ Bureau of Crime Records. "Piracy". *Maldives Police Service*, 17 February 2020. Stat No:A2(a)2020/051.

b. Maritime Terrorism: In the history of Maldives many incidents of maritime related terrorism have been witnessed due to the weakness in terms of maritime security and easy accessibility of the sea route to the terrorist organizations. In December 1752, Malabar (a group belongs to Indian Territory between Karnataka and Kerala) invaded Maldives through the sea route and ruled the country till 7th April 1753, which is a classic example of how vulnerable Maldives is to maritime terrorism.¹ This was the situation till 1st January 1981 when Maldives then President Maumoon Abdul Gayyoom officially introduced maritime security component, Coast Guard. Though maritime security force is established, due to the lack of concern among the security forces, 3rd November 1988 terrorist attack took place through sea which resulted into the death 19 Maldivians, including 11 casualties of security forces. Such incidents increased the importance of change in the approach of security paradigm. Significant improvements in maritime security - particularly MNDF CG - has been observed Nevertheless, due to the geographic location and the nature of formation of atolls and islands it is agreed that monitoring of all the boundaries of Maldives is still a far-fetched dream. The fragile state of maritime security was observed when former Vice president of Maldives escaped his trial by leaving the country on a cargo vessel.

c. Illegal Unregulated and Unreported (IUU) Fishing: Illegal, Unreported and Unregulated (IUU) fishing is a term which covers various activities involves in fishing. IUU fishing can be observed within the territorial waters and beyond. IUU fishing is a big challenge for the maritime nations where large population depends on the financial benefits from the fishing industry as well as their daily meal is based on seafood. IUU fishing goes against the rules, enacted to manage and conserve the marine life and as a result it effects the long-term sustainability of marine resources in the respective country or the region.

Furthermore, IUU fishing violates the rights of those fishers who obey and follow the regulations and act responsibly.⁵

IUU fishing is a prominent threat in the Indian Ocean, especially in the important tuna-rich waters of Seychelles, Madagascar, Mauritius Comoros and Maldives. Overfishing and depletion of certain fish stocks and species in the Indian Ocean are impacting food security in a broader sense with added loss of economic benefits to countries like Maldives dependent on fisheries and marine resources. World fishing fleets are moving towards the Indian Ocean due to the depleting marine resources in other parts of the world and the increased global demand for fish. Every year, the region loses \$2bn worth of fish to illegal fishing, and apart from depriving the region of revenue, overfishing reduces fish stocks, reduces the share of local fishermen and harms the marine environment.⁶

The mission of Maldives fisheries sector is “to strengthen the fisheries sector in order to increase its competitiveness and sustainably manage all marine living resources in the maritime zones of the Maldives” and the vision is “to transform the fisheries and agriculture sectors into a sustainably managed and market-oriented system that contribute to socio-economic growth, food security and sustainable management of natural resources”.⁷ To achieve these objectives Maldives fisheries regulation says that allows fishing other than net fishing:

⁵ “What Is IUU Fishing? | Illegal, Unreported and Unregulated (IUU) Fishing | Food and Agriculture Organization of the United Nations”. Accessed 17 October 2019. <http://www.fao.org/iuu-fishing/background/what-is-iuu-fishing/en/>.

⁶ Dr. Teale N. Phelps Bondaroff. “The Illegal Fishing and Organized Crime Nexus: Illegal Fishing as Transnational Organized Crime”, 2015. https://www.unodc.org/documents/congress/background-information/NGO/GIATOC-Blackfish/Fishing_Crime.pdf.

⁷ Ministry of Fisheries Agriculture Marine Resources and, “Stakeholder Meetings with the Blue Prosperity Coalition Have Commenced to Discuss the Marine Spatial Planning of the Maldives”, *GOV.MV*, 12 December 2019

⁸Maldives is a country where only pole line, long line fishing are allowed to sustain the fish stock and to protect living resources but IUU fishing is a challenge to achieve desired results. In 2019 alone, more than 20 fishing vessels were captured in the Maldivian territory on the charges of illegal fishing.⁹

d. Climate Change: The Indian Ocean is considered one of the most productive oceans and has witnessed global warming at a rate of 1.8 degree Celsius over the last century which is very high and sea level raising compared to global surface warming up to 0.8 degree Celsius during the same period.¹⁰ Small Island States are at forefront of climate change impact. Inter-governmental Panel on Climate Change (IPCC) report warns the low lying small states that global temperature are likely to increase by 1.5 degrees between the year 2030 and 2052.¹¹ Due to the unique geographical features, including coral landscape of over one thousand and two hundred, in the context of climate change Maldives is considered one of the island nations most likely to be vulnerable to impact due to global warming.

These small low lying islands are constantly at risk of coastline erosion and storm tidal waves. Growing pressure to the coral reef due to human development and rising temperature of both, water and air, cause imbalance on the ecosystems. Maldives is going to face extreme weather patterns, such as extensive precipitation and storms. Maldives vulnerability to climate change has been awakened especially after tsunami resulting from the Indian Ocean earthquake,

⁸ Government of Maldives, "General Fisheries Regulation", Attorney General Office, n.d., www.mvlaw.gov.mv/pdf/gavaid/minFisheries/10.pdf.

⁹ MNDF CG. "Apprehended Vessels 2019". Annual, 2019.

¹⁰ Dinesh C. Sharma. "Climate Change in Our Backyard: Warming of Indian Ocean Threatens Fish Catch", n.d. www.firstpost.com/world/climate.

¹¹ Ministry of Environment and Energy. "What You Do for Small Islands, You Do for the World." 2018. <http://www.environment.gov.mv/v2/wp-content/files/publications/2018-1106-pub-what-you-do-for-small-islands-you-do-for-the-world-2015-2018.pdf>.

which hit the island in 2004.ⁱⁱ As a result, the National Disaster Management Centre (NDMC) was established, but risk management and adaptation policies developed, especially on the community level are still inefficient.

Figure 2: Erosion of Island



Source: a Local from Raa Atoll Kinolhas, January 2020

e. Maritime Pollution: Major accidents arising from oil bunkering, shipwrecks and collisions at sea can have serious consequences to the marine environment. Oil pollution can be regarded as an inevitable outcome of the dependence of a rapidly growing world community on oil-based technology. Apart from this, deliberate discharge of harmful quantities of oil and other hazardous substances, garbage, cargo residues, ballast water and sewage renders severe environmental damage to the ecosystems and even impact economies of the countries. Maldives is a country where economy is dependent on tourism, clear lagoons, underwater beauty and sandy beaches are reasons tourists travel from all over the world. Oceanic damage such as oil pollution would have detrimental effects on the country's economy.

f. Drug Trafficking: The country is a small archipelagic state combined of 100% Muslim nation, however influenced by many external illegal activities such as drug trafficking. Number of

young citizens have become drug abusers and solving the issue of narcotics is a challenge for the law enforcement agencies. According to Maldives Police service records more than 2000 drugs cases are being investigated for past 5 years.¹² Country's porous maritime borders with limited resources to counter drug trafficking situation makes things worse each passing year. In 2006 more than a ton of hash oil, packed and hidden in the lagoon near Dhiffushi Island, in a depth of 30 meters was captured by law enforcement authorities.¹³ In 2019 in a joint operation conducted by Maldives Police Service and Maldives Coast Guard, a vessel carrying more than 150 kgs of drugs was found at North of Maldives.¹⁴

Afghanistan and India's Andhra Pradesh is notorious for producing hash oil and other types of drugs. In 2019 alone, Maldives Coast Guard has apprehended two Iranian vessels suspected of carrying Drugs.¹⁵ Meanwhile India's Kerala state exercise enforcement squad (SES) reported that drugs transported from Andhra Pradesh to Maldives through Kerala is a new trend that they have observed in the recent past.¹⁶ Hindustan Times reported that Maldives is used as a transit destination to carry drugs from Pakistan to India.¹⁷

4. The Maritime Security Structures Various Archipelagic States

Every Nation has its own way of formulating and executing measures irrespective of national security or maritime security or any other national matters. It mostly depends on the national interests, economic power, geography, customs and tradition and so on. In this

¹² Maldives Police Service. "Crime Stats". Annual. Maldives, 2006.

¹³ Maldives Police Service. "Crime Stats". Annual. Maldives, 2006.

¹⁴ "Raajje Sarahadhdhun 150kg Ge Drugs Athulaigenfi", *Mihaaru*, accessed 16 December 2019, <https://mihaaru.com/news/62559>

¹⁵ MNDF CG. "Apprehended Vessels 2019". Annual, 2019. MNDF CG, "Apprehended Vessels 2019".

¹⁶ "Kerala Akee Raajje Ah Drugs Etherekuraa Hub Eh: SEES". *Mihaaru*. Accessed 16 December 2019. <https://mihaaru.com/news/59080>.

¹⁷ "Pakistan in India Ah Drug Fonuvan Raajje Beynunkura Kamah Thuhumathkoffi". *Mihaaru*. Accessed 16 December 2019. <https://mihaaru.com/news/58023>.

regar, it will be difficult to decide a particular country to follow but certain features can be adapted. Maldives Coast Guard's former Commandant Col. Mohamed Ibrahim (at present, Commander Central Area) said *"Given the context of Archipelago there is no particular archipelagic country's model that we can follow. Nevertheless there are certain aspects of security parameters applied in small states that can be applied for Maldives"*.¹⁸ Following paragraphs we will look into Maldives, Indonesia, Philippines and Mauritius, their philosophy, concepts and their way of doing things with the reference of the literature review.

a. Maldives: Coast Guard is the naval or military arm of MNDF. As the nation's only maritime force among the four military arms, Coast Guard stands firm and proactive in safeguarding the nation, its people and the legitimate government of the Maldives. To be more precise, the mission of this unique maritime force as stated in Strategic Defence Directive 2012 is to defend the independence, sovereignty and peace of the nation. The MNDF Coast Guard has multiple roles, with the strategic military application settling within the parameters of national defence and territorial integrity as the primary task.¹⁹ Towards fulfillment of this huge responsibility, Coast Guard engages in:

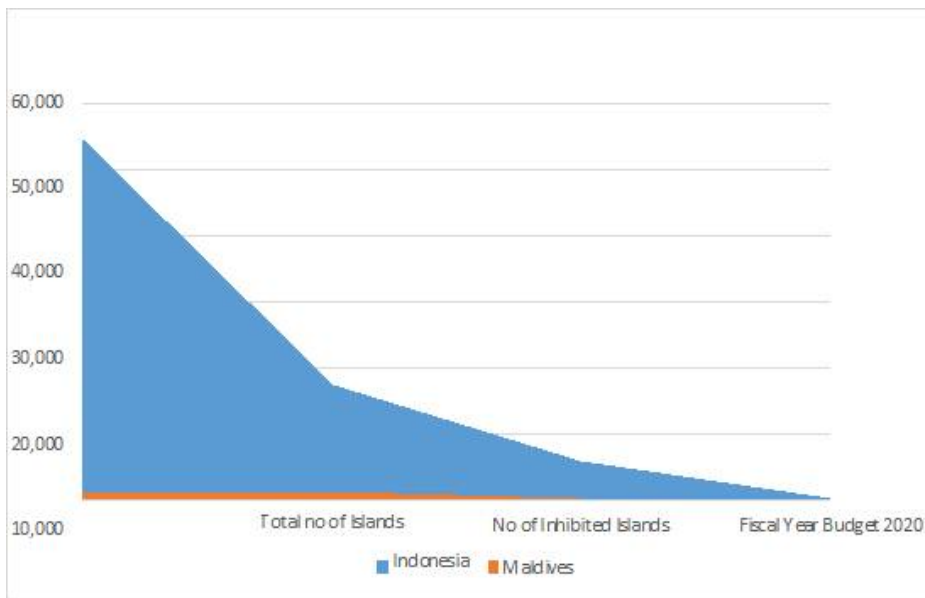
1. Maritime Security.
2. Maritime Mobility and Law Enforcement.
3. Maritime Defence and Force Protection.
4. Disaster Response and Relief.
5. Maritime Safety and Search and Rescue
6. Maritime Pollution and Protection of marine environment.
7. Port Security.
8. VVIP Security.

¹⁸ Col Mohamed Ibrahim, "Which Archipelagic Sates Maldives to Follow", 17 December 2019.

¹⁹ Maldives National Defence Force, "Reshaping the Defence Sector for a Secure Maldives" (MNDF, 2012).

b. Indonesia: Indonesia is the largest archipelago in the world, located in a strategic location at the heart of link between India and Pacific Ocean. Due to this geographic location, imposes an obligation to protect vital sea line of communication (SLOC) and gives the opportunity to access the plenty of marine resources that are there at the disposal of Indonesia.

Figure 3: Comparison between Maldives and Indonesia



Indonesian President in 2014 declared his Global Maritime Fulcrum (GMF) vision to the world. His message was that Indonesia's livelihood both drives from and depends upon the sea. His vision is to transform its maritime economy and transform Indonesia into a leading maritime power.²⁰

According to assessment conducted by RAND, Indonesia also faced non-traditional threat similar to Maldives which includes, smuggling, IUU fishing, piracy and terrorism. Indonesia has eleven key actors in implementing and executing maritime policies and regulations while Maldives has Maldives Coast

²⁰ Lyle J. Morris and Giacomo Persi Paoli, "A Preliminary Assessment of Indonesia's Maritime Security Threats and Capabilities:". Product Page, (2018), https://www.rand.org/pubs/research_reports/RR2469.html.

Guard as a key player and Marine Police as law enforcement agency along with Coast Guard in territorial water.

Indonesia has Indonesian Water Police (POLAIR) and Directorate of Customs and Excise (BDC) for security and law enforcement, Indonesian Task Force to Combat Illegal Fishing (SATGAS115) to control illegal fishing and protect marine resources Indonesian Search and Rescue Agency (BASARNAS) to formulate and execute search and rescue operations, Directorate General of Sea Transportation to command the Indonesia Sea and Coast Guard, Maritime Security Agency (BAKAMLA) to conduct joint maritime operations at sea and also Indonesian Navy to defend the maritime borders of Indonesia. All these agencies have their independent assets, relevant arms and legal framework to carry out assigned tasks.

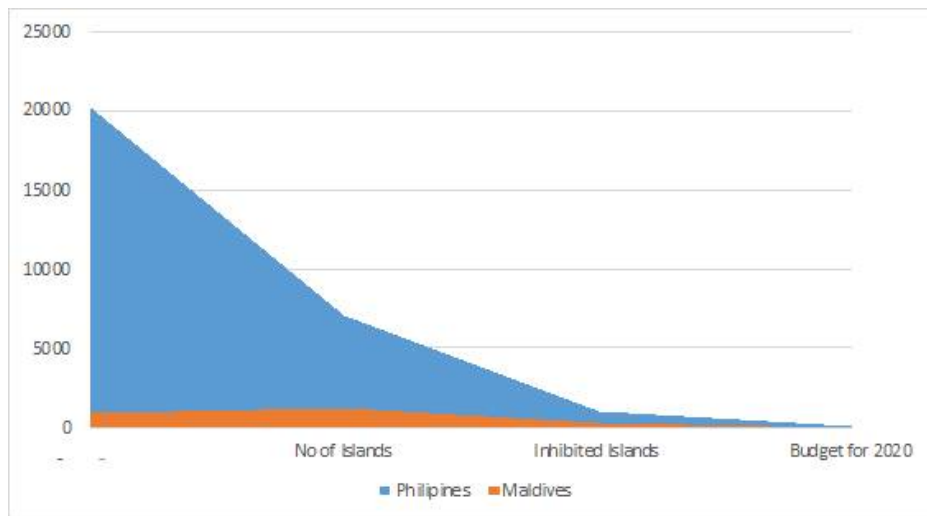
Indonesia is planning to build 24 seaports and deep seaports and enhancing the facilities in the existing 5 ports to fill the infrastructure gap. Indonesia is also looking for innovative methods to upgrade their maritime domain awareness in-terms of satellite data which will also cover the vessel monitoring system.²¹

c. Philippines: Philippines geographically isolated from mainland East Asia, consisting of 7107 islands out of which only 1000 islands are inhabited. Philippines covers coastline of 20107 km. Maritime Security is crucial for Philippines, an archipelagic state in Southeast Asia which has so far struggled to maintain its sovereignty and engaged in disputes at South China Sea. Philippines strategic focus changed from internal disharmony to maritime security when president then Aquino took over in June 2010. President Aquino vowed to modernize the Armed Forces of Philippines and formed the Department of National Defence (DND).

²¹ Morris and Persi Paoli, "A Preliminary Assessment of Indonesia's Maritime Security Threats and Capabilities".

To achieve President Aquino's vision, Philippines launched a naval build-up program worth USD10 billion for the acquisition within 15 years period. In this project Philippines navy procure six frigates, 12 corvettes, 18 OPVs, 26 naval and multi-purpose helicopters.²² Philippines is a strategic partner of the United States in the region since cold war era, besides that Philippines is also part of the Indo-Pacific with United States and Japan.

Figure 4: Comparison between Maldives and Philippines



To counter these threats, Philippine Navy has a functioning fleet of law-enforcement naval assets consisting mostly of fast patrol boats. Philippine Navy also has capabilities, coastal patrol, troop carrying capability and disaster relief assets.²³

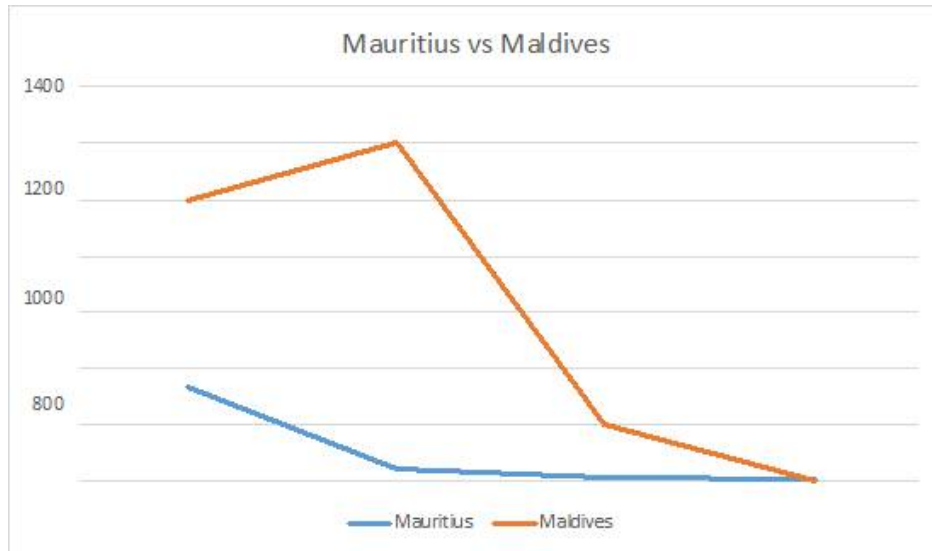
d. Mauritius: Mauritius and Maldives belongs to two different continents, the former belongs to Africa. These two archipelagic states have common features with respect to maritime environment. Mauritius has a coastline of 330 km with a population of approximately 1.3 million is believed to be one of

²² Renato Cruz De Castro, "The Philippines Discovers Its Maritime Domain: The Aquino Administration's Shift in Strategic Focus from Internal to Maritime Security", *Asian Security* 12, no. 2 (3 May 2016): 111–31.

²³ Castro, Renato Cruz De, "The Philippines Discovers Its Maritime Domain: The Aquino Administrations Shift in Strategic Focus from Internal to Maritime Security" *Asia Security Journal*, Routledge Taylor and Francis Group, 2016), 05, accessed 22 November 2019.

the countries which will effect most due to global warming and sea level rise.

Figure 5: Comparison between Maldives and Mauritius



Mauritius is facing similar non-traditional maritime threats as of Maldives ranging from Drug trafficking, Piracy, IUU fishing environmental challenges. Maritime Security largely depends on Indian assistance and joint maritime surveillance with India.²⁴

Mauritius has joint military force under the Mauritius Police force which comprising of Anti-Drug Smuggling Unit, Central Investigation Division, and Helicopter Squadron, National Coast Guard, Port Luis North Division, Rodrigues Police, Special Mobile Force, Special Supporting Unit, Traffic Branch and Western Division.²⁵

A conference of ministers on maritime safety and security in 2010 acknowledged, that to tackle the direct and indirect threats in the maritime domain, a comprehensive strategy is essential and should encompass the emerging challenges and

²⁴ Insp LR Rose, "Mauritius Security Force", 5 November 2019

²⁵ "The Mauritius Police Force - Branches", accessed 7 January 2020, <http://police.govmu.org/English/Organisation/Branches/Pages/default.aspx>.

threats. In 2019 during the Western Indian Ocean Maritime Security Conference, Minister of Public Infrastructure and Land Transport Mr. Nandhcoomar Bodha stressed the importance of maritime information sharing mechanism between the regional states.²⁶ Understanding the importance of the maritime domain for sustained economic development by Mauritius is the first major step and Initiating the creation of national maritime safety and security strategies by conducting audits of maritime capacities in the operational, financial, legal and regulatory domains could be the second step.²⁷ With these strategic plans and mainly with the assistance of allies Mauritius is moving forward for a safer maritime security environment.

5. Government Strategies – Strengthening Maritime Boundaries of Maldives

In 2018, newly elected Maldivian President Ibrahim Mohamed Solih has stressed the importance of making efficient use of maritime domain on many occasions. He has also stressed the importance of strengthening the maritime security rather investing on land forces. Therefore, development of MNDF Coast Guard becomes his government's priority. These promises bring hope not only to maritime seafarers but for every citizen of the country since Maldives is a country where every individual is bound to use sea for their lives. In January 2020 during the President's visit to northern atolls he launched a survey exercise with blue peace prosperity coalition in association with Maldives Marine Research Institute to understand the condition of Maldivian seas which will enable utilization of marine resources in a healthy and environmental friendly manner.²⁸

²⁶ "Republic of Mauritius- Cooperation and Complementarity among States Key to Address Maritime Security Issues, Says Minister Bodha". Accessed 22 December 2019.

²⁷ Republic of Mauritius. "Embracing a Brighter Future Together as a Nation", 2019. http://budget.mof.govmu.org/budget2019-20/2019_20budgetspeech.pdf.

²⁸ "Government and Blue Prosperity Coalition Launch Scientific Expeditions to Explore Maldives' Ocean", *The President's Office* accessed 29 January 2020, <https://presidency.gov.mv/Press/Article/22935>.

a. Ruling Party Manifesto: “Jazeeraa Raajje” is the theme given for the Ruling party of Maldives 2018 election’s manifesto. Jazeeraa Raajje which means Archipelagic Maldives or simply the island nation. In its introduction it describes the features of island state, from the natural features to some inherent features of communities living in island states. Then the manifesto covers the theme of “Blue Economy”. Under the blue economy it is mentioned that livelihood of Maldivians and the economy will depend on the environment, protection of sea, lagoons and reefs. Developing and protecting marine resources and fishery industry, development of aqua culture, establishing a sea transport network across the country and tourism.²⁹To execute ruling party’s manifesto, it is common to bring amendments to existing laws and introduce new laws in Maldives.³⁰

b. Changes and Developments within MNDF: When the present government came into power in November 2018, the Commandant Coastguard was not from a maritime background, due to this fact Coast Guard faced challenges to implement maritime safety measures and bring necessary changes as per international maritime norms. In July 2019 Chief of Defence force appointed one of the most experienced and knowledgeable maritime officers as Commandant Coast Guard. This positive change brought trust among the sailors and also among civil maritime community of the Maldives.

c. Maritime Environment - Backbone of Economy: Since the ancient times, the economy of the Maldives depended mainly upon fisheries and other marine resources. As history suggests, these rich marine resources also attracted colonizers towards Maldives. In 1558, when the Portuguese forces raided the capital Male, their focus was to take over the trade of cowries

²⁹ Maldives Democratc Party (Ruling Party), “Manifesto: Jazeeraa Raajje”, 2018.

³⁰ Government of Maldives. General Fisheries Regulation. Attorney General Office, n.d. www.mvlaw.gov.mv/pdf/gavaid/minFisheries/10.pdf.

and other artifacts extensively being traded from Maldives.³¹ Ranked by the United Nations as one of the world's least developed countries in the early 1990s, Maldives had a GDP based 17 percent on tourism, 15 percent on fishing - which is undergoing further development - and 10 percent on agriculture.³² In a generation, it has gone from being South Asia's poorest country to the region's highest per-capita income. Economic growth was powered mainly by tourism, the backbone of the economy, and associated businesses. This section analyses trade and economy of Maldives, new economic aspirations of the government, the security implications of these projects and the envisaged effect on sea power, sustainability, challenges and its protection.

Maldives is ranked 166 among the exporting nations of the world. In 2017, Maldives export figures were \$309M and imports costed \$1.39B, resulting in a negative trade balance of \$1.08B. In 2017 the GDP of Maldives was \$4.87B and its GDP per capita was \$16.7k.³³ The main export of the Maldives remains fish-based products contributing 84.2% of the total exports while top import of the country is petroleum products representing a figure of 47% of the total. The country is increasingly depending on imports due to lack of adequate agricultural activity, fossil fuel resources that match the growing demands and the growth of tourism industry. More than 90% of the overseas and internal trade is through sea routes. The seas, therefore, play a very vital role in the trade and economy of the nation. Maldives is a mixed economy mainly centered on tourism, fisheries and shipping.

d. Fisheries: Fishing provides for a large percentage of Maldivians and has been the oldest form of occupation and practice. Until 1985, it was the largest contributor of Maldivian

³¹ "Maldives - HISTORY". Accessed 23 February 2020. <http://countrystudies.us/maldives/1.htm>.

³² Ibid.

³³ "OEC - Maldives (MDV) Exports, Imports, and Trade Partners". Accessed 23 February 2020. <https://oec.world/en/profile/country/mdv/>

GDP. Maldivians employ the most sustainable method of pole and line for tuna fishing. Currently, marine capture fisheries account for 9% of GDP, 17% of employment and 66.3% (by value) of the export commodities of Maldives.ⁱⁱⁱ

e. Tourism: Tourism introduced in 1972, the country has experienced a boom as a high-end tourist destination for foreign holiday-makers.³⁴ Today tourism has become the largest revenue generator of the country accounting for 60% of its GDP. Presently 145 resorts, 521 guest houses with more than 45000 beds are there to facilitate tourists and it continues to expand. Maldives is a dream destination with marine ecology and marine environment forming the base of the tourism industry.³⁵

6. Analysis an outcome

Because of ongoing conflicts, economic interests of the world's major powers deployed their maritime presence in Indian Ocean region. Indian navy's presence in Mauritius, Madagascar, Seychelles, and Maldives and US presence in Bahrain, and Diego Garcia, Afghanistan with other technical and financial aids to regional archipelagic and small states from their partners Japan and Australia makes the countries in the India Ocean region to remain under their influence. On the other hand, China along with its allies also try to exercise its economic influence.

Non-state actors here are referred to as the non-state maritime actors that pursue political or socio-economic objectives. Having mentioned that only rare cases it would be pure maritime based or land based, its most of the time maritime actors will be operating collaboration of land actors or vice-versa. Modern day pirates operate with modern equipment with the objective of various crimes such as arms robbery, murder, hijacking and many more.

³⁴ "Tourism Industry in Maldives", accessed 23 February 2020, <https://www.tourism.gov.mv/pubs/TourismIndustryinMaldives/overview.htm>.

³⁵ "Maldives to Open 20 New Resorts in 2019", *Maldives Insider*, 10 February 2019, <https://maldives.net.mv/29628/maldives-to-open-20-new-resorts-in-2019/>.

International Maritime Organization annual report 2009 shows that most affected areas include areas where great number of archipelagic states exists, particularly South China Sea, Caribbean and the Indian Ocean. A total of 406 cases of piracy and armed robbery incident cases attempted or occurred in 2009 were reported compared to that of 223 cases reported to IMO in 2018.³⁶

As world population is increasing at a faster pace, marine resources are in decline, challenge and concern for the IUU fishing control is also growing.³⁷ Increasing population will demand to increase food production, to overcome this challenge various conventions and regulations have passed domestically and internationally. UN General Assembly held in 2015 to discuss about the 2030 Sustainable Development Agenda which read “Climate change is one of the greatest challenges of our time and its adverse impacts undermine the ability of all countries to achieve sustainable development. Increases in global temperature, sea-level rise, ocean acidification and other climate change impacts are seriously affecting coastal areas and low-lying coastal countries, including many least developed countries and small island developing States. The survival of many societies, and of the biological support systems of the planet, is at risk”.

7. Regional Responses against Maritime Security Threats

Regional cooperation is essential for developing countries to break the shackles of poverty and underdevelopment. Exchange of expertise and resources can increase the pace of development in comparison to pursuing the goal of economic progress in isolation. European Union (EU) is a role model for all the regional organizations across the world. The cooperation among 6 European countries started in the sector of coal and steel which expedite the

³⁶ IMO, “Reports on Acts of Piracy and Armed Robbery Against Ships”, *Annual* (London, 2018 2009).

³⁷ Leo J. Bouchez, “The Future of the Law of the Sea: Proceedings of the Symposium on the Future of the Sea Organized at Den Helder by the Royal Netherlands Naval College and the International Law Institute of Utrecht State University 26 and 27 June 1972” (*Springer*, 2013).

rehabilitation of their economic after two world wars. Since then they have come a long way and number of EU countries now have a single currency and the freedom of travel enjoyed by European citizens cannot be witnessed in any other region of the world. Even ASEAN has developed strong cooperation mechanism in order to come up with a joint disaster response. AHA center is established which not only facilitate the synchronization of response across the region but also organize courses for capacity building of member states to enhance their disaster and emergency response capacity.³⁸

Unfortunately, no such collective efforts are to be found at the forum of SAARC. Most of the South Asian countries are either engaged in inter-state conflicts or embroiled in intra-state disputes. This bleak scenario has prevent the region from realizing its true economic potential.³⁹ Maritime is one such domain where this lack of cooperation can be observed, despite facing more or less similar non-traditional maritime security threats. However, south Asian states have adopted some measures and have gone through structural changes individually which can be helpful for Maldives to device their own response mechanism by emulating those practices as per the peculiarities of Maldivian maritime predicament.

Measures taken by the regional and different archipelagic states regarding the improvement development of maritime security are discussed in the subsequent sections.

a. India: Although India and Maldives are incomparable and too different in terms of size, national interests, national objectives, security interests, defense and security capabilities are similar and the country is the closest maritime neighbor and largest trading partner of Maldives. Therefore Maldives is prone to many of the non- traditional security threats that circle around India. In response to sweeping changes in the regional and global geostrategic environment, significant

³⁸ Petz, Daniel. "Strengthening regional and national capacity for disaster risk management: the case of ASEAN" *Brookings-LSE Project on Internal Displacement* 14 (2014)

³⁹ Dubey, Muchkund, "SAARC and South Asian economic integration". *Economic and Political Weekly* (2007) 1238-1240

change in India's security calculus and also because of its national outlook towards seas with maritime security being a vital element of national progress, India had developed a maritime strategy in 2007 and a follow up promulgation titled "Ensuring Secure Seas: Indian Maritime Security Strategy" in October 2015.

India's maritime development and the vision of leading the Indian Ocean region as a maritime power is becoming more realistic than ever before with the world attention to Indo-Pacific. The phrase "Indo-Pacific" is vibrant for many reasons, ensuring stable balance of power, monitoring and deterring threats from Iran and North Korea, directing various maritime security operations such as counter-terrorist, counter-trafficking and counter-piracy mission.⁴⁰ Currently India is working in collusion with the United States, Japan, Australia and many other smaller nations. With these developments, India is increasing its maritime presence and surveillance networks which includes the regular maritime surface patrol, Helo operation and Surveillance radar network across the Maldives.

b. Pakistan: Pakistan Maritime Security Agency (PMSA) is primarily responsible for protection of maritime domain in Pakistan from non-traditional maritime security threats. The country has comparable maritime sector and faces challenges of IUU Fishing, poaching by foreign fishing vessels, marine pattern, environmental challenges and illegal trafficking. Maritime Domain Awareness (MDA) has become of paramount significance for Pakistan at national as well as regional level. Therefore, in 2013, Pakistan established Joint Maritime Information Coordination Center (JMICC). The purpose behind establishing such body was to increase coordination among

⁴⁰ David Michel and Ricky Passarelli, "Sea Change, Evolving Maritime Geopolitics in the Indo-Pacific Region" (Sitmon, 2014), <https://www.stimson.org/wp-content/files/file-attachments/SEA-CHANGE- WEB.pdf>.

⁴⁴ Naghmana Zafar, "Building Maritime Security in Pakistan – The Navy Vanguard," in *Capacity Building for Maritime Security*, ed. Christian Bueger, Timothy Edmunds, and Robert McCabe (Cham, Switzerland: Springer International Publishing, 2021)

different security agencies by invoking early warning mechanisms in order to tackle any maritime related threats. Five areas come under the scope of JMICC. Those are; Piracy, Maritime Crimes (drug trafficking and human smuggling), Maritime Terrorism, Illegal use of EEZ (fishery crimes, unauthorized resource exploitation), search and rescue (protection of fishermen and helping seafarers in distress). JMICC brings 46 institutions under its ambit for the sake of timely information sharing. Some key institutions include; Naval force, Research Institutes, port authorities, anti-narcotics force and customs. It also regularly engages with the industrial sector and the civil society to ensure the elements of inclusivity and transparency.⁴¹ With the growing institutional memory it is evolving in terms of its predictive and analytical capacity. This is essential for Pakistan to become a preventive force rather than engaging merely in rescue and responsive activities.⁴² Maldives can also follow the suit and establish such inter-organizational coordination at national level may be, body which can ensure early response and preventive capacities to deal with aforementioned maritime security threats.

c. Sri Lanka: Sri Lanka is located in the north-east of Maldives approximately 448 miles away, occupying a strategically important position in the Indian Ocean. It is the second closest neighboring country of Maldives. The waters of the country were heavily infested with terrorist activities of LTTE before they were defeated in 2009. Sri Lanka is facing similar threat as of Maldives after the civil war, such IUU fishing, human and drug trafficking and India-China maritime power competition.⁴³

⁴¹ Baber Ali Bhatti. "Joint Maritime Information Coordination Center: A milestone toward Maritime Domain Awareness in Pakistan" see at : <https://www.maritimestudyforum.org/joint-maritime-information-coordination-center-a-milestone-toward-maritime-domain-awareness-in-pakistan/>

⁴² Malik, Hasan Yaser. "Role of Pakistan Navy in Indian Ocean Blue Diplomacy." *Defence Journal* 21.8 (2018): 33-25

⁴³ "Sri Lanka's Maritime Security Dilemma", *South Asian Voices*, 16 August 2019, <https://southasianvoices.org/sri-lanka-maritime-security-dilemma/>.

Indian Ocean provides a vital sea route linking the Orient and the west. Beside Sri-Lankan Navy, Sri-Lanka is increasing the capability of Sri-Lankan Coast Guard to further strengthening the maritime boarder security as well as maritime law enforcement. Sri-Lanka, Maldives and India have an agreement signed on July 8, 2013 on coordinated handling of maritime security threats such as piracy, gunrunning and terrorism in the Indian Ocean⁴⁴

8. Measures taken by Maldives

a. Humanitarian Efforts by MNDF-CG: Maldives has large sea area with limited facilities. Due to the dependence of majority of the population on sea for their livelihoods, they are bound to face weather related challenges. To counter this challenge MNDF-CG have increased their number of search and rescue operations. Following are details of the distress calls received by MNDF-CG and their responses in 2019.

INCIDENT REPORT 2019 - MNDF CG				
#	DETAIL	TOTAL DISTRESS CALLS	ASSISTED (DIRECTLY)	ASSISTED (INDIRECTLY)
1	Vessel Aground	225	123	96
2	Engine Breakdown	318	129	186
3	Accident	27	12	15
4	Maneuvering Failure	24	12	12
5	Fire Incidents	27	21	12
6	Missing person	33	21	12
7	Diving Accidents	30	24	06
8	Medical Evacuation	399	399	00
9	Others	330	240	90

Table 3: Incident Report 2019 - MNDF CG *Info: Maritime Rescue Coordination Center (MRCC), MNDF CG*

⁴⁴ "Sri Lanka And Maritime Security", *Colombo Telegraph*, 9 September 2013, <https://www.colombotelegraph.com/index.php/sri-lanka-and-maritime-security/>.

Due to the peculiarity of Maldivian predicament, the country has to come up with some indigenous measures with incorporation of best models available regionally and globally and are best suited to address the challenges faced by Maldives.

b. Fisheries Act: On 5th September 2019 Fisheries act was passed from the parliament and then ratified by the President Ibrahim Mohamed Solih on 16th September 2019. Following changes observed in the new law with respect to blue economy and maritime security;

- With the introduction of the new Fisheries Act, aqua culture was included, which did not mention and in sustainable aqua culture fishery policy and development is addressed in the objectives of the new law which is not mentioned in the previous law (5/87).
- In objectives of the new law it is asked from concerned authorities to formulate a regulation to prevent IUU fishing.
- To reach bilateral agreement with the regional countries to invite foreign investment and also facilitate the Maldivian fishermen to operate without fear in the territorial waters of other countries
- Any sort of net fishing and use of explosives to catch is banned under this law.

Under the new the fishery monitoring, controlling and surveillance authority is given to Maldives Coast Guard, Maldives Police Service and Maldives Customs Service whereas in 5/87 fishery law it is the mandate of MNDF Coast Guard.

9. Conclusion

Increased geopolitical and geostrategic significance of IOR in the recent years have led to the presence of innumerable threats and challenges of maritime dimension in the region. As the third largest oceanic division of the world connecting vital sea lanes east-west carriers containing one-fourth of entire world's marine cargo and two-thirds of oil. The shift of global focus on the Indian Ocean because of its changing geo-economics and geo-strategy has led to the presence of extra-regional powers in IOR. This change in the new world order has seen an exponential rise of maritime activities with introduction and rise of maritime threats of varying nature. Existence of inter-state and intra-state armed conflicts, poverty, corruption and political instability have also contributed largely to the increasing challenges at sea.

In addition, climate change, IUU fishing, environmental degradation and other non-traditional maritime threats pose great challenges to the region and are affected by all countries in the region. These challenges are more pronounced on small island nations such as Maldives. As a maritime nation, Maldives has been dependent on its marine environment for growth, sustenance and prosperity since time immemorial. The economy of the country is built on its seas with tourism, fishing and shipping forming the backbone. As Maldives is comprised of more than thousand tiny islands dispersed far and wide with its unique fragile geographic features, effects of climate change and natural disasters are of utmost concern.

Maldivian economy and infrastructure can also be devastated by natural disasters, as the country has experienced during the 2004 Tsunami. Further, the coastal integrity and the national security of Maldives has already been threatened with past incidents of transnational crimes which range from piracy, gunrunning, maritime terrorism, drug trafficking and threats arising from religious extremism. These threats and challenges are likely to grow in the future as Maldives has embarked upon new economic initiatives

which include the development of Special Economic Zones (SEZ), expansion of tourism and fisheries sector. The sea power of the Maldives will take a big leap with these aspirations put into action, provided only if commensurate measures are taken to protect the elements of sea power.

Maldives in its security paradigm is unique. Maritime security is the key to ensuring the territorial integrity of the Maldives and is a constituent ingredient of national security. The complexities and uncertainties of our seas persist as the security environment would continue to evolve in view of past and current trends. This would lead to an expansion of Coast Guard's defence and constabulary role in addressing plausible activities of maritime transnational crimes, resource exploitation and other crimes of maritime nature.

With an overview of the threats and challenges associated with Archipelagic States and Maldives in particular, certain significant strategic objectives for Maldives, can be drawn out for addressing the maritime security in Maldivian waters. The primary objective would certainly be to attain and sustain maritime territorial integrity and sovereignty, security of the islands against all possible non-traditional threats via sea, other maritime economic infrastructure and assure freedom of navigation in accordance with UNCLOS. Secondly, it is important to implement effective conservation, protection and management of the marine environment while implementing measures against effects of climate change.

Asserting effective, sustainable control over fisheries activities, exploration and exploitation of other marine resources in areas within the national jurisdiction is an important objective to promote economic development. A key objective would also be to ensure the integrity of maritime shipping routes throughout Maldivian waters. Enacting new laws, amendment of existing laws to close existing gaps and converge all national efforts/ resources (both public and private) and delineation of roles/ responsibilities of different stakeholders would be absolutely necessary.

The objective of defeating maritime threats and challenges, therefore, need a coherent effort at the national level as well as regional level.. Ensuring the security of own waters is ensuring the security of the region and beyond, because the net security profile of the region or the globe for that matter, is the security of individual countries put together. Maldives, as a maritime nation whose economic well-being and other components of national security is dependent totally on its seas, maritime security must be the top priority. In this regards, some recommendations are appended below:

- Minimize the creation of artificial islands and reduce the usage of one time use plastics for a better maritime environment.
- Expansion of fishing up to EEZ will attract more localized foreign fishing vessels and would generate a better amount of revenue from the fishing industry. This will prompt better regulatory measures dealing with governance, fisheries management, monitoring, control and surveillance.
- Maldives does not have a strong shipbuilding industry as yet. It can, however be argued that a substantive increase in seaborne trade would lead to development in shipbuilding industry due to the increase in demand for merchant vessels. Shipbuilding industry could go a long way in establishing a robust industry and reduce nation's dependence on foreign –flagged vessels for trade.
- Regional collaboration should be enhanced amongst all countries for improved maritime management in the region.
- Regional state should work more closely on information sharing & response mechanism

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The US Free and Open Indo-Pacific Strategy: Implications for China (2017-Present)

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Abstract

The Indo-Pacific region is becoming the focal point of strategic competition in the 21st century. The region, previously limited to the Asia-Pacific, has evolved into a wider geographical and geopolitical realm, thanks to the unparalleled economic, political, military, and diplomatic growth of China over the past three decades. Since 2006-07, the region is receiving wider attention from the United States and its regional allies – Japan, Australia, and India. While the term Indo-Pacific has been developing into a geopolitical discourse since then, it came to the surface in the United States in 2017 as Trump administration assumed power. The United States views the rise of China as a threat to its liberal rules-based order and global hegemony. This article deals with the US Free and Open Indo-Pacific Strategy (FOIP) formulated by Trump administration in November 2017 and reformulated by Biden administration in February 2021 to counter growing China’s assertiveness in the region, which China calls its ‘peaceful rise’. To achieve its goals, the United States heavily relies on its strategic partners, each of which has a different interpretation of the Indo-Pacific. Ineffectiveness of various bilateral and multilateral engagements along with the implemental limitations of the Indo-Pacific strategy itself has, so far, failed

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to bring negative implications for China. This puts the future regional order of the Indo-Pacific in a jeopardy. The regional actors are not willing to become a tool of the US or China in balancing each other's threats indirectly. This leaves us to assuming that the Indo-Pacific region is most likely to observe a multilateral order in years to come. Given the criticalness of the situation, both the United States and China should opt for a cooperation mechanism rather than containment strategies to ensure peace and stability in the Indo-Pacific.

Keywords: Asia-Pacific, Free and Open Indo-Pacific, United States, China, QUAD, Regional Order, Maritime Cooperation

1. Introduction

As the world order changed after collapse of USSR in 1991, the US has been enjoying its position as the global hegemon. Only a decade later, China grew to be the second largest economic power in 1999. Today, China has its foothold in every region around the world. It has been doing great in maintaining diplomatic ties, security alliances and economic investments. These rapid economic, political and security achievements of China are putting US in a difficult position as the hegemon. As the world has moved from traditional means of warfare to non-conventional approaches like economic and cyber warfare, US has been adopting strategic measures to counter China's growing power and threat in Indo-Pacific region and across the globe.

With increasing globalization, interdependence and modern security trends, it became important to balance the threat rather than balance the power. The balance of power theory suggests that states ensure and protect their survival through military power and resources only. However, Stephen Walt put forward the concept of balance of threat in 1987 stating that states try to increase their capabilities based on the perceived threats instead of power the other state holds. While balance of power resorts only to military aspect, balance of threat encompasses all the domains including economic, political, and non-conventional, all of which add to the resources of a state. As the aggregate power of China increased, its

military power enhanced and it became capable of acting offensively due to exponential growth in its naval power, the US perceived security threats from China in all the domains be it politics, economy, or military.

Ever since, it has been shaping strategies to balance China's threat such as A Cooperative Strategy for 21st century Seapower (CS21) formulated by US in 2007, the Defense and Strategic Guide 2011, the Asia pivot strategy 2012 which mentioned India as the 'regional anchor' and 'broad security provider for Indian Ocean Region' and A Cooperative Strategy for 21st Century Seapower Forward Engaged Ready (CS21R) in 2015 that put forward American concerns regarding increasing China's assertiveness. As Chinese threats to India increased and needs for US strategic cooperation enhanced, India revised its maritime doctrine in 2015 to broaden its area of security interest from Horn of Africa to Western Pacific. Through China's Anti-Access and Anti-Denial strategy (A2/AD) in the South China Sea, China has projected the possible expansion of its sea denial rhetoric to the Indo-Pacific in order to protect its sea lanes of communication (SLOCs). With the Trump administration in power since 2017, the threat of China's power is being taken more seriously. The 2017 National Security Strategy (NSS) and 2018 National Defense Strategy (NDS) described China as a strategic competitor and a revisionist power. The most recent US strategy to counter China's influence is Free and Open Indo-Pacific strategy (FOIP) that covers Mekong states and Pacific Island states as well as South Asia.

Through its Indo-Pacific strategy, US has been trying to curb China's growing influence. So far, China has responded to the strategy diplomatically under its Peaceful Coexistence foreign policy and has followed its principles of mutual respect, mutual non-aggression, mutual non-interference, and mutual benefits. This study seeks to investigate the transformation of strategic thinking that changed Asia-Pacific into a broader and more significant region, the Indo-Pacific. Next, it addresses the underlying aims of US behind the Free and Open Indo-Pacific (FOIP) strategy. It examines the credibility and

effectiveness of bilateral and multilateral engagements in the Indo-Pacific under FOIP to counter China's growing power. It further analyses economic, political and security implications for China under US Indo-Pacific strategy as well as how the current rules-based regional order is more likely to change into a multipolar order. Lastly, it evaluates how far US has been successful in containing China's rise.

2. Transformation of Strategic Thinking: From Asia-Pacific to Indo-Pacific

The concept of Indo-Pacific came forward as a progress in the traditional 'Asia-Pacific' approach which solely focused on United States and its East Asian allies in the region – Australia, Japan, Taiwan, South Korea, and Vietnam. However, with the economic and political advancements, the center of gravity has extended to the West. The region includes nine out of the ten busiest seaports of the world are in Indo-Pacific region. This accounts for approximately 60% of the global maritime trade through Asian region, with South China Sea alone acting as the transit for one-third of the global shipping.¹ The emergence of new economic and political actors (China, India, and Asian Tigers) along with the changing trends in the international political economy, the entire region from Horn of Africa to Western Pacific has evolved to be of great strategic significance.

It all began in 2006-07 when Japanese Prime Minister Shinzo Abe delivered a speech in the Indian parliament on the "Confluence of the two seas". He emphasized on the increasing politico-economic connectivity and interdependence between the two oceans, calling the Pacific Ocean and the Indian Ocean as a single space. However, the idea came to the surface again in 2011 when US Secretary of State Hillary Clinton used the term Indo-Pacific while speaking to the public of how US is pivot to Asia. For the first time, the term Indo-Pacific officially appeared neither in Japan nor US but Australia's white paper Australia in the Asian century in 2012. With increasing

¹ United States. Department of Defense, *A Free and Open Indo-Pacific Advancing a Shared Vision*, (2019).

regional focus of the term, India also contributed to Indo-Pacific discourse by including the term in its 2015 maritime strategy *Ensuring Secure Seas: Indian Maritime Security Strategy*.²

However, Indo-Pacific made it to the foreign policy discourse for the very first time in 2016 as Japan announced its Free and Open Indo-Pacific Strategy at the Tokyo International Conference on African Development, later persistently discussed at IISS Shangri-la Dialogue as an attempt to counter Chinese power and influence in the region. During his address at APEC summit in November 2017, President Trump mentioned “Free and Open Indo-Pacific” as the focal element of US policy towards Asia. The very next month, in December 2017, the United States released its National Security Strategy, documenting the term Indo-Pacific officially for the very first time, thus bringing the Indo-Pacific into a true geopolitical context.³ QUAD, re-established after negotiations in November 2017 that brought regional democracies, Japan, Australia, and India together with U.S. and later the AUKUS alliance under President Biden highlight the continued strategic efforts towards Chinese containment in the Indo-Pacific.

The transformation over strategic thinking has directed geopolitical focus towards the Indo-Pacific but the Chinese officials have been quite passive in response to the use of this term by the United States and its regional allies. As early as 2018, the foreign minister of China Wang Yi rejected the notion of the Indo-Pacific, calling it merely an idea to grab popular attention.⁴ Chinese scholars and officials have repeatedly regarded the idea as United States’ attempt to establish a grand alliance in the Indo-Pacific region, use

² India. Indian Navy. Directorate of Strategy; Concepts and Transformation, *Ensuring Secure Seas: Indian Maritime Security Strategy*, (2015).

³ Felix Heiduk and Gudrun Wacker, *From Asia-Pacific to Indo-Pacific Significance, Implementation and Challenges*, (Berlin: SWP German Institute for International and Security Affairs, 2020), https://www.swp-berlin.org/publications/products/research_papers/2020RP09_IndoPacific.pdf

⁴ Rory Medcalf, “The Indo-Pacific with Chinese characteristics,” *Politique étrangère* 3, no. 3 (2019), <https://doi.org/10.3917/pe.193.0049>

India as a tool to balance Chinese threat, declare cold war in a new style, or simply find a better cooperative space between United States and China. However, with the strengthening geopolitical context of the term, Chinese thinktanks are now working on developing a refined perspective towards Indo-Pacific. Having played the most crucial role in making Indo-Pacific region the strategic centre of gravity, it is impossible for China to ignore the regional developments taking place over the Indo-Pacific idea.⁵

3. Theoretical Framework: Balance of Threat

Stephen M. Walt developed a counter theory to Balance of Power known as the Balance of Threat in his work *Origin of Alliances* (1987) as he asserted that states react to threats, not to power. So, states tend to form alliances or coalitions against a rising state that threatens their national interests and sovereignty. Balancing means that states tend to ally against a potential hegemon before it becomes too strong to ensure their survival. So, as a safe strategy, it is better to align with the likeminded states that are perceiving similar kinds of threats. The alternative to balancing act is band wagoning under which states ally with the rising threat rather than against it in order to protect their interests and ensure their survival. However, as per Walt, states are more likely to balance rather than bandwagon because of the changing intentions and unreliable perceptions.⁶ The bigger the perceived threat, the bigger is the need to balance it. Four elements, according to Walt, define perceived threats:

- i. Aggregate power (how powerful the threatening state is, in terms of size, population, economic capabilities and latent power)
- ii. Geographical proximity (how close is it)
- iii. Offensive capabilities (the extent of its military might)

⁵ Baogang He, "Chinese Expanded Perceptions of the Region and Its Changing Attitudes Toward the Indo-Pacific: a Hybrid Vision of the Institutionalization of the Indo-Pacific," *East Asia* 35, no. 2 (2018), doi:10.1007/s12140-018-9291-8.

⁶ Stephen M. Walt, *The Origins of Alliances* (Ithaca: Cornell University Press, 2013)

iv. Offensive intentions (the extent of its aggressive actions)

The aggregate power is the overall power that a state can wield and due to the threat, this power may become a motive for either balancing or band wagoning. If states are threatened from a proximate power in a regional framework, they will align in response to those threats. If a state has a large offensive capability, they often provoke an alliance rather than those who are capable of only defending. States may balance this threat by allying with others or may also be forced to bandwagon because one's allies may not be able to provide assistance quickly enough and hence for the vulnerable states, there is little hope in resisting. If states appear aggressive, they provoke a balancing action by other states. China's rise in the international system as a whole is economically driven and US is balancing the threat both internally and externally.

Internally, through building its own military strength

Externally, through its allies and partners

The four elements of threat perception put forward by Walt have made regional actors like India and Japan more threatened by Chinese power than the US power in the Indo-Pacific. This mutual concern for the threat posed by China has cultivated in the form of the US Indo-Pacific strategy, its formal alliances, and implicit strategic partnerships, all to contain and balance the Chinese threat. John Mearsheimer took this very balancing theory into account when he said that 'most of Beijing's neighbours will join the US to contain Chinese power'.⁷

⁷ Andreas Bock and Ingo Henneberg, "Why Balancing Fails: Theoretical Reflections on Stephen M. Walt's Balance of Threat Theory," SSRN Electronic Journal, 2013, doi:10.2139/ssrn.2409228.

4. Credibility and Implications of the Free and Open Indo-Pacific Strategy (FOIP) for China

The United States sees China's economic and military actions and assertiveness as a threat to the liberal rules-based order in the Indo-Pacific. United States is under the perception that increased China's foothold will constraint US' role as the global hegemon. The 2017 US National Security Strategy and the 2018 National Defense Strategy put special emphasis on the Indo-Pacific region, calling China a revisionist power and stressing upon the need to limit Chinese expansionism and assertiveness. Both these strategies called for a specific US policy for the Indo-Pacific region to deter Chinese aggression. Thus, came forward US Free and Open Indo-Pacific Strategy (FOIP). In order to achieve the Indo-Pacific agenda, the US has relied on two key tools: bilateral relationship and multilateral engagements across military, political, economic, and diplomatic domains.

a. Bilateral Relationships: United States has further narrowed down its relationships to bilateral level in order to develop closer cooperation with the significant regional actors. This includes the 5 most crucial allies – Japan, Australia, India, South Korea, and Taiwan. Over the years, United States have had a number of bilateral deals and partnerships with Japan. The recent ones to strengthen the initiative of Indo-Pacific strategy are Strategic Energy Partnership and Strategic Digital Economy Partnership, extending from Indo-Pacific to Africa.

Other than that, US is largely focusing on growing its partnership with India. Under 2+2 Dialogue in 2018, US and India have strengthened their defense and economic ties. India also purchased \$16 billion worth of defense weapons and \$6.2 billion of mineral fuel products to secure US India Strategic Energy Partnership. Interestingly, US and India have also signed a \$1.5

billion project for development of Earth observation satellite, NISAR.⁸

b. Multilateral Engagements: While ASEAN, Lower Mekong Initiative and Asia-Pacific Economic Cooperation (APEC) are popular multilateral engagements of US, the Trilateral Strategic Dialogue – US, Japan, and Australia – has always been a crucial nexus in the Indo-Pacific. So far, this multilateral initiative has received highest attention from US, Japan, and Australia. Each state has its own points of conflict and threat perceptions when it comes to China. While there are some diverging interests, the element of countering China alone has proved to be enough in bringing these actors to the table. Interestingly, India has also become a part of this strategic dialogue and its involvements in various meetings throughout 2018 and 2019 resulted in Quadrilateral Strategic Dialogue, commonly known as the Quad Alliance.⁹

c. Credibility of the QUAD Alliance: While Quad is seen as a security alliance to further strategic interests of four partners in the region as an attempt to balance Chinese threat and bring success to FOIP, there are many limitations to the Quad initiative due to differences in the Indo-Pacific ideology of each actor. These differences occur due to:

- i. Geographical understanding of the Indo-Pacific region
- ii. Varying degree of threat perceptions that each actor has in relation to China

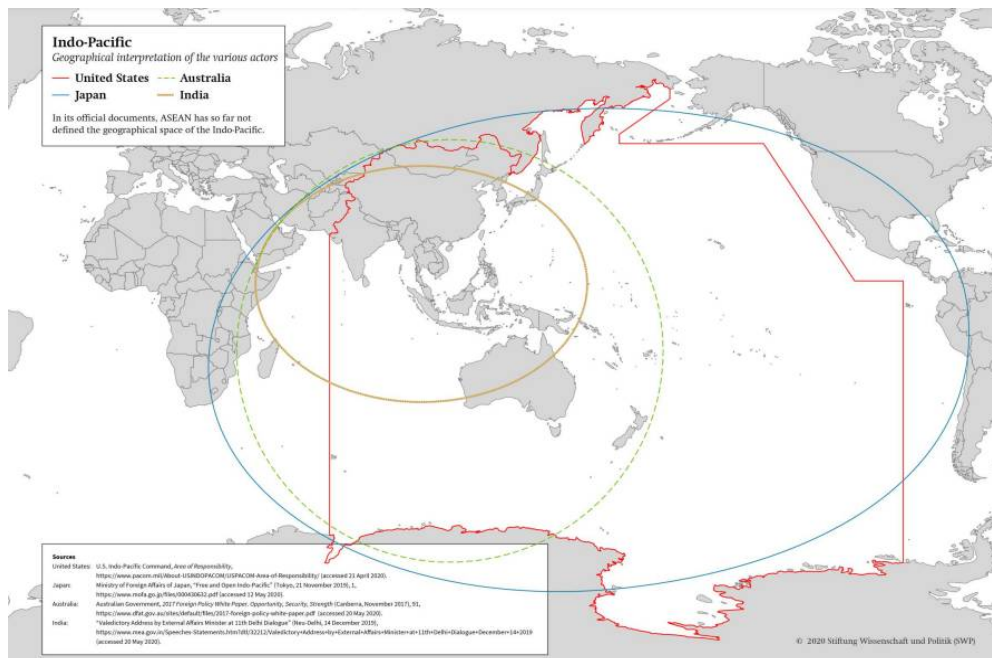
d. Geographical understanding of the Indo-Pacific Region: When it comes to geography, every actor of Quad has a different interpretation of the Indo-Pacific, based on its strategic interests.

⁸ United States. Department of State, *A Free and Open Indo-Pacific: Advancing a Shared Vision*, (2019).

⁹ United States. Department of State, “Free and Open Indo-Pacific.”

For United States, Indo-Pacific stretches from Pacific to India, not touching the Eastern coast of Africa. For Australia, the idea of Indo-Pacific remains confined to the region between Australian coast and African coast. Japan has the broadest view of Indo-Pacific. For Japan, Indo-Pacific includes all the Pacific nations, East Asian nations, South Asian nations, and much of African nations. India, however, focuses on a limited region of the Indo-Pacific, including its immediate Pacific and Indian Ocean neighbourhood.¹⁰ Such great differences in the geographical understanding of the Indo-Pacific reflect that each actor looks forward to meets its own interests in the region and the Quad is just a supporting bloc for the Indo-Pacific idea. The following map depicts geographical interpretation of each actor regarding Indo-Pacific:

Figure 1. Geographical interpretation of the Indo-Pacific region (Heiduk & Wacker, 2020)



e. Individual Threats and Challenges: Moving forth, each state has a varying degree of threats and challenges that it wants to balance against China. States like Japan and India share territorial disputes with China and so, consider territorial factor as a critical

¹⁰ Heiduk and Wacker, "From Asia-Pacific to Indo-Pacific."

element of their Indo-Pacific ideology. For Australia, the factor of bilateral trade relations with China are impossible to ignore or end. For United States, geographical non-proximity, focus on the “security” elements alone, and limitations of the Free and Open Indo-Pacific Strategy are some factors that challenge the credibility of the Quad.

Japan and China are involved in a territorial conflict over Senkaku islands. Since Japan nationalized Senkaku islands in 2012, the conflict has intensified. Chinese vessels and maritime forces operate deliberately within the territorial sea of islands, claiming the area as its own. With lesser capability to counter China directly, Japan is limited in its actions. Somewhat similar is the case of India. It also shares a territorial dispute with China over Arunachal Pradesh in India, which China claims to be its part of Southern Tibet, and Aksai Chin in China, which India claims to be a part of Indian Occupied Kashmir. As we look into the state capacity, India has improved its warfare capabilities and infrastructure since the Sino-Indian war of 1962. However, the pace of military modernization of China is comparatively quite higher. Also, both India and China are nuclear states. Any case of conventional war between India and China can turn into a nuclear war, causing equal damage on both sides – a situation which both countries prefer to avoid. This leaves India with playing a little role as the broad security provider in the region.

Australia, another proponent of Quad, finds itself in a complex regional environment. Even though Australia does not have any territorial conflict with China, it is reluctant of military participation in Quad. Well, the reasons are merely economic. Australian economy is itself largely dependent on trade with China. As of 2019, Chinese exports account for 7% of Australia’s GDP. Australia has its largest share of export with China, approximately 36% and China is the biggest market of Australian coal, gas, and iron ore. Lately, China has taken firm actions against states that have retaliated against its actions and developments in South China Sea

and East China Sea such as banning banana imports from Philippines and banning rare earths exports to Japan, respectively. China also imposed economic sanctions against South Korea over its military deployments. Australia fears that it will become the part of the list if it directly stands against China thus, restricting military participation of Australia in Quad.¹¹

Last but not the least, US has its own limitations when it comes to the Quad. The US does not share geographical proximity and so, is heavily dependent on its allies to balance growing Chinese threats – the burden which its strategic partners are not yet ready to bear. Moreover, the Quad Alliance is merely a form of security alliance based on the principle of ‘containment’ instead of ‘cooperation and containment’.¹² Here, US needs to realize that in order to balance perceived Chinese threats, forming a strict security alliance is alone not enough and there is a need to focus more on economic element. China’s policy of mutual cooperation and non-intervention is a witness that China has never taken an aggressive toll against any country in the first place.¹³ Therefore, China is least likely to launch a military attack on US or any of its allies in the region. Thus, the rebalancing strategy of the United States is flawed, questioning the core purpose of the Quad Alliance and reflecting poor credibility of the Indo-Pacific strategy.

¹¹ Lee Lavina, *Assessing the QUAD: Prospects and Limitations of Quadrilateral Cooperation for Advancing Australia’s Interests*, (Sydney: Lowy Institute, 2020), <https://www.lowyinstitute.org/sites/default/files/Lee%2C%20Assessing%20the%20Quad.pdf>

¹² Jyotsna Mehra, *The Australia-India-Japan-US Quadrilateral: Dissecting the China factor*, (New Delhi: Observer Research Foundation, 2020), <https://www.orfonline.org/research/the-australia-india-japan-us-quadrilateral/>

¹³ Wu Shicun and Jayanath Colombage, *Indo-Pacific Strategy and China’s Response*, (Washington DC: Institute for China-America Studies, Oct 2019), <https://chinaus-icas.org/wp-content/uploads/2020/11/Indo-Pacific-Strategy-and-Chinas-Response-Report-FINAL.pdf>

5. The New Indo-Pacific Strategy Under Biden Administration and AUKUS

In February 2021, Biden administration formulated the new Indo-Pacific strategy which continues to emphasise on bilateral relationships (with a special emphasis on India) and multilateral alliances. However, it has signalled the plans for establishment of an Indo-Pacific economic framework since the biggest threat from China comes from its economic developments and BRI. Moreover, the new Indo-Pacific strategy has also focused on inclusion of European partners in the region as evident from the AUKUS alliance between the US, UK, and Australia.¹⁴ While, in addition to cyber capabilities and artificial intelligence, AUKUS aims at providing Australia with a nuclear-powered submarine, it is important to note here that China already possesses 6 nuclear-propelled submarines and 4 nuclear-propelled ballistic missile submarines.¹⁵ However, to what extent AUKUS turns out to be an effective security pact still remains to be seen.

6. Chinese developments in the Indo-Pacific amid US counteractions

As China turned from an agricultural economy to industrial economy in late 1990s, its pace of development has taken a toll. The 21st century witnessed rapid economic growth, establishing and maintaining diplomatic relations and increasing military and naval power. Here's how China has continued to advance its military, economic, and political developments while the United States attempts to create alliances, formulate strategic partnerships, and take part in regional architecture:

¹⁴ Carla Freeman, Daniel Markey, and Vikram J. Singh, A Closer Look at Biden's Indo-Pacific Strategy, (Washington DC: United States Institute of Peace, 2022), <https://www.usip.org/publications/2022/03/closer-look-bidens-indo-pacific-strategy>

¹⁵ Patrick M. Cronin et al., BEYOND THE SAN HAI: The Challenge of China's Blue-Water Navy, (Washington DC: Center for a New American Security, 2017), <https://www.jstor.org/stable/pdf/resrep06325.5.pdf>.

a. Military Modernization: The military presence of China in the Indo-Pacific started increasing in 2008 as a fight against piracy. Over the last decade, China has been building its navy to secure its economic, trade, and strategic interests. While the Chinese national defense strategy Fighting Regional Informatized War previously focused on building military presence in the Pacific Ocean, it was updated in 2015 to increase its dimensional focus from Pacific Ocean to Indian and Pacific Ocean, thus covering the entire Indo-Pacific region.

The strategy now includes a significant concept 'frontier defense' which relates to the expansion of People's Liberation Army Navy (PLAN) in the Indo-Pacific region. China regards its naval expansion to protection of its sea lanes of communication (SLOCs) spread across Indian ocean and South China Sea. This is important in order to secure 85% of its oil imports that take place through Indian Ocean, heavily dominated by Indian Navy. Moreover, South China Sea covers a large part of China's Maritime Silk Road and so, it reflects the need to protect its SLOCs.¹⁶

The naval modernization of China exhibits two major goals: establishment of a forward naval presence to counter aggression and development of long-range power-projection capabilities to ensure powerful naval presence. This includes offensive as well as defensive weapons to protect areas of China's maritime interests. China has expressed its determination to strengthen its security in the Indo-Pacific by increasing the capabilities and number of its nuclear-powered submarines, surface combat ships, aircraft carriers, intercontinental ballistic missiles (ICBMs), mid-range ballistic missiles (MRBMs), and ballistic missile launch submarines.¹⁷

¹⁶ You Ji, "China's Emerging Indo-Pacific Naval Strategy," *Asia Policy* 22, no. 1 (2016), doi:10.1353/asp.2016.0035.

¹⁷ Cronin, "Beyond the San Hai."

Other than that, it has been building artificial islands in the South China Sea and militarizing them heavily. The military bases and naval dockyards in the Spratly Islands and Paracel Islands are posing great security threats to the neighbouring states. In May 2016, China made the largest deployments in South China Sea, Western Pacific Ocean, and Indian Ocean. In December 2016, its first aircraft carrier conducted several training exercises in the region, adding to its capabilities and naval expertise. PLAN aims at launching its first nuclear-powered aircraft by 2025. This will largely increase its naval capabilities and defensive posture in the Indo-Pacific, presenting grave threats for the regional states. China's modern intermediate-range ballistic missiles such as DF-26 come with a high range of nuclear strike within 4,023 km. These are capable to attack and cause significant damage to central India, Straits of Malacca, and Guam, if launched from Hainan Island. Its other strategic ICBMs such as DF-41 possess a range of 12,000 km to 15,000 km and have a huge nuclear payload capacity of 2,500 kg.¹⁸

Now, China is also establishing its bases on islands in the Indian Ocean. Given these military capabilities, China is strongly influencing the trade routes of Indo-Pacific region. It exerts control over the most significant ports from the Gulf of Aden to Strait of Malacca. China has put special emphasis on the military deployment in South China Sea which projects direct threats to all the East Asian countries as well as the mainland India.

b. Belt and Road Initiative (BRI): The naval presence of China largely attributes to its economic Belt and Road Initiative (BRI), introduced by Chinese President Xi Jinping in 2013. BRI plans to

¹⁸ Thangavl Balasubramaniam and Ashok Kumar Murugesan, "China's Rising Missile and Naval Capabilities in the Indo-Pacific Region Security Implications for India and its Allies," *The Journal of Indo-Pacific Affairs* 3, no. 2 (2020), <https://www.airuniversity.af.edu/JIPA/Display/Article/2210972/chinas-rising-missile-and-naval-capabilities-in-the-indo-pacific-region-security/>

connect Asia to Europe, Africa, Middle East, and Americas, which will not only foster regional connectivity but aims at building global connectivity. In order to propagate its goal of a large, unified market, China has invested in the construction around 35 new ports across the world, out of which 14 are present in the Indo-Pacific region. It aims at investing in around 70 states and international organizations across the globe.¹⁹

Under BRI, China has launched multiple economic initiatives with the South Asian and Southeast Asian countries. Out of all, the China Pakistan Economic Corridor (CPEC) and China's investment in creating special economic zones (SEZs) in Gwadar and rebuilding the Gwadar port present great challenges for United States and its allies in the region, especially India. Mekong states have also received significant economic advantages from BRI. China is making huge investments in infrastructure, financing, and development in the Indo-Pacific. It has established great political and diplomatic ties to foster political and economic cooperation. China has made billions of dollars of investments in almost all the Southeast Asian states. Other than that, it has provided significant political and cultural support to the neighbouring countries in the region.²⁰

BRI has proved to be a strong tool of Chinese influence in the Indo-Pacific. The high degree of investments reflects that South Asian or Southeast Asian countries will not enter into any alliance against China aimed at countering the perceived Chinese threats. Or at least, this economic cooperation and agreements will ensure that these states maintain a neutral approach towards China's advancements in the Indo-Pacific region and resulting Western aggression.

¹⁹ Xue Gong, "China's Economic Statecraft: The Belt and Road in Southeast Asia and the Impact on the Indo-Pacific," *Security Challenges* 16, no. 3 (2020), <https://www.jstor.org/stable/26924338>

²⁰ Gong, "China's Economic Statecraft."

c. Diplomatic Support and Political Ties: China has extended political support to the countries in Indo-Pacific region along the Maritime Silk Route. Even though it continues to respect its foreign policy agendas of mutual non-interference, it now offers diplomatic support to its formal and informal allies on the territorial disputes and conflicts. This is evident from the case of Pakistan in Kashmir issue, Russia in Ukrainian crisis, Azerbaijan in Nagorno-Karabakh war, etc. Other than this, China has also established good diplomatic and economic ties with countries of Pacific insular region, covering the islands of Melanesia, Micronesia, Polynesia, and French Polynesia. Strengthening relations with these countries and offering direct investments is adding to Chinese access to natural resources, offering better exploitation opportunities.²¹

Altogether, China's stable political relations with regional countries and archipelagos, the BRI with its economic investments and the increased naval capabilities of PLAN has led to a great geopolitical competition in the Indo-Pacific. While many states see it is a long-term economic opportunity, several of them are wary of Chinese growing influence in the region, especially United States and its major allies – India, Japan, and Australia. However, with poor degree of credibility of Quad alliance and limitations of the US Free and Open Indo-Pacific strategy, it does not seem that only the Indo-Pacific narrative can do much to reduce fast-paced Chinese developments in the region or balance the perceived Chinese threats of US and its regional partners.

7. The Future Regional Order of the Indo-Pacific

The Indo-Pacific is a combination of both land and maritime geographical area and has the claws of almost all the major and emerging powers in it. The regional order here is formed by the interactions among these strategic powerhouses and has evolved to

²¹ David Scott, "China's Indo-Pacific Strategy: The Problems of Success," *The Journal of Territorial and Maritime Studies* 6, no. 2 (2019), <https://www.jstor.org/stable/26912752>.

become one of the most important centres of global economy and political influence. The region is highlighted in almost every country's strategic book as an area of interest for maritime security, multilateral and commercial engagement, and capacity building. The current rules-based order, however, now faces imminent threats due to the emergence of a power that competes with the existing hegemon in terms of material capabilities. The unprecedented political, economic, and military developments of China in the Indo-Pacific has largely disturbed the existing regional structure. The new regional order in Indo-Pacific is emerging due to increase in the relative power of China as opposed to the US in context of economy and security arrangements and primarily because of the operations carried out by China in violation of the international law, specifically the militarization of the South China Sea.

China's rise in the Indo-Pacific can be accounted to Beijing's understanding that the rules based order only serves the interests of those who get to set the rules and the idea is very western itself that rules are necessary for maintaining a degree of predictability in international affairs and hence, the Chinese political philosophy itself does not incline towards the idea of a rules-based order.²² While prospects of continued American hegemonic presence have diminished and China faces several limitations in imposing a Chinese-led regional order, the question comes down to whether the Indo-Pacific will experience a bipolar or multipolar order in the foreseeable future.

In the case of bipolar vs multipolar order, the weight lies with the latter since it allows the regional states their freedom of action rather than being the pawns of the big powers in a bipolar order. We see China's rise; however, it is being constantly challenged by the US as it struggles to maintain its presence in the region despite challenges at home and increasing global challenges in light of the COVID-19 pandemic. A multipolar order in the region might play in favour of US since all the regional flags identify themselves as democratic and

²² Feng Zhang, "Chinese Visions of the Asian Political-Security Order," *Asia Policy* 13, no. 2 (2018).

having such shared interests, India, Japan, Indonesia and others share US eagerness to balance China in the region. The regional order in this case would be equally held together by the regional states and US who would not enjoy the same agency as before but will be able to contain China.²³ So, a multipolar order would keep the region and its states safe from both the Beijing's assertiveness and Washington's unpredictability.

8. Conclusion

The United States and China are engaged in a strategic competition in the Indo-Pacific. At stake stand the contrasting visions and ideas about the rules, norms, and laws that will govern maritime affairs, trade, navigation, and stability of the region. With the rise of China as a regional power, now growing into a global power, the US perceives political, economic, and security threats from China in the Indo-Pacific, a region that has always been a keen priority for US to fulfil its national interests. The contemporary dynamics of the Indo-Pacific reflect how the United States is attempting to balance Chinese threat in the region since traditional material capabilities are unable to suppress Chinese developments.

In order to ensure that the Indo-Pacific region functions in accordance with the rules-based order, the US designed a Free and Open Indo-Pacific Strategy, under which the US plan of action remains bilateral and multilateral engagements to win enough allies in the region. While regional actors such as Japan, Australia, and India share the same Indo-Pacific vision of the Indo-Pacific as that of United States, the core realities are different. Each of these actors has a different geographical understanding of the Indo-Pacific as per their individual interests. The degree of threat perception also varies from one regional actor to another, based on their realist intentions, border disputes, trade activities, and economic reliance on China. While U.S has been engaged in several bilateral and multilateral

²³ Zack Cooper, "The Future Indo-Pacific Order," *Security Challenges* 16, no. 3 (2020), <https://www.jstor.org/stable/26924332>

engagements, the most significant one appears to be QUAD, the future prospects of which are not very likely to enable it to become a strong hedge against China. Moreover, the flaws of the US Indo-Pacific strategy show how it is totally uncompetitive, uncoordinated, inconsistent, underresourced, and to be blunt, counterproductive in bringing negative implications for China.

On the other hand, China continues to enhance its power and threat projection capabilities through naval modernization, military control of the South China Sea, BRI, trade agreements, and diplomatic relations with regional states. Such actions are a clear reflection of the failure of the Indo-Pacific strategy to counter China's growing assertiveness. This does not only add to the Chinese threat but also puts the future of the Indo-Pacific in jeopardy. Given the increasing competition in the region, the ineffectiveness of US policies, and unprecedented growth of China, regional actors are ready to engage in a multipolar Indo-Pacific. The regional players such as India, Japan, and Australia find it in their best interest to maintain relations with both sides, avoid alliance formation and practice autonomy. Thus, the US Free and Open Indo-Pacific strategy has done one thing if nothing else – bringing regional actors into play and preventing the cold war scenario between China and the United States in the Indo-Pacific. This, along with inclusion of European actors, is exactly what seems to be the main objective of the new Indo-pacific strategy under Biden administration. However, to what extent is it successful in countering China remains a dilemma. Meanwhile, the US and China need to work on a cooperation mechanism instead of continued hedging and containment to maintain peace and stability in the Indo-Pacific.

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The Strategic Maritime Environment of the Indian Ocean: An Analysis of the Challenges and Prospects for Pakistan

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Abstract

Strategic maritime environment of the Indian Ocean (IO) is rigorously changing in the course of last two decades. Regional focus has sharply shifted from territorial to maritime borders, largely impacting transnational ties in wake of defense and security measures. This insight covers background of strategic maritime environment of the Indian Ocean along with shifting trends after the launch of China's "Belt Road Initiative". The discourse also covers impact of COVID crisis on maritime environment of IO and recent tactical reorientation of global powers in the region. Furthermore, Strategic analysis of maritime power in the Indian Ocean is done in calibration of the various political narrative. USA, China, India, Australia, and Pakistan are taken under keen sight of policy analysis. Opportunities and challenges for Pakistan in lieu of this discussion is penned down categorically. Development of Maritime Security Strategy of Pakistan (MSSP) with commensurate needs is brought focus under as a result of the deliberate policy and maritime environment study of IOR. Cogent recommendations are offered to Pakistan Navy and the Government to fill the lapse on way to emerging naval power of the Western Indian Ocean. It is a qualitative research, employing descriptive chronological discussion, based on targeted theme in the larger perspective.

Keywords: BRI, Defense and Security, Indian Ocean, Maritime Environment, Policy Analysis

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1. Background of Strategic Maritime Environment in the Indian Ocean (IO)

In the recent course of years, the Indian Ocean Region (IOR) emerged as a strategic hub of navies of many countries. It has exacerbated the clashes among the riparian and other Asian states for ascending influence. Clash of hegemons in IO is taking surge as USA and China appears to be strategic rivals. One very reason for active military presence of the USA in IO is to balance the power equation in the region due to the rising shadows of Chinese control¹. Long-going US-Iran rivalry and Middle East concerns are also reasons behind US interest in the Indian Ocean. Strategic overlooking exposit that India aims its emergence as a regional power with no better option available than the prospect alliance with the US for accomplished economic and military intentions². While maritime security strategies and development of modern Australian navy may give a balancing effect to the rising power expression in IOR³.

Above all connectivity is the major concern in the Indian Ocean which raises clashes, competitions, and progressive ways. Today the alliance maneuvering in IOR is an anarchic shift in the structural reorganization of a hegemon. According to Alexander Wendt coalitions are aiming for power balance and ultimate superiority⁴. Within BRI, three major corridors i.e. CPEC (China Pakistan Economic Corridor), CICPEC (China-Indochina Peninsula Economic Corridor), BCIM (Bangladesh, China, India and Myanmar Economic Corridor) routes outspreading in IO are changing prospect strategic environment and security trends. Extended travel time and distance

¹ M. K. Bhadrakumar, "US-India Military Alliance Comes into View," Asia Times, October 26, 2020, <https://asiatimes.com/2020/10/us-india-military-alliance-comes-into-view/>.

² Ibid.

³ Serge DeSilva Ranasinghe, "Future of Navy Modernisation: An Interview with Rear Admiral Mark Campbell," Australian Institute of International Affairs, July 30, 2014, <https://www.internationalaffairs.org.au/australianoutlook/future-of-navy-modernisation-the-royal-australian-navy-looks-to-the-future/>.

⁴ Alexander Wendt, "Anarchy Is What States Make of It: The Social Construction of Power Politics," *International Organization* 46, no. 2 (1992): P., 39, <https://www.jstor.org/stable/2706858?seq=1>.

will be circumvented with the initiation of these routes and one country supremacy as an economic giant⁵.

On the other side, Chinese dependency on the Strait of Malacca seems implausible to end as currently 80% of Chinese oil trade is done through the route⁶. While in comparison, fully functional CPEC needs a decade to meet the responsibilities of the Chinese rising economy. For the purpose, China made a strategic security plan for the Indian Ocean region by increasing naval bases i.e., Sittwe, Chittagong, Hambantota, Djibouti, and prospect trade base in Gwadar-about 500km away from world's most strategic chokepoint of Hormuz⁷. More than US\$1 trillion Chinese investment in BRI has raised a competitive environment and security needs in the Indian Ocean region within the last decade.

Strategically foreseeing, China's envisioned planning may contain India in the first place from northern borders to open edges with the Indian Ocean. Further due to US-Iran rivalry and increasing Indo-US alliance under LEMOA (Logistics Exchange Memorandum of Agreement) has kicked out India from Iran's Chabahar port investment plans⁸. On the other hand, the USA could be contained by choking at Gwadar deep-sea strategic port in a trade movement

⁵ Francois De Soyres et al., "How the Belt and Road Initiative Could Reduce Trade Costs | VOX, CEPR Policy Portal," Voxeu.org, 2018, <https://voxeu.org/article/how-belt-and-road-initiative-could-reduce-trade-costs>.

⁶ Alisha Dalvi, "The Malacca Dilemma: A Hindrance to Chinese Ambitions in the 21st Century—Berkeley Political Review," Berkeley.edu, August 26, 2019, <https://bpr.berkeley.edu/2019/08/26/the-malacca-dilemma-a-hindrance-to-chinese-ambitions-in-the-21st-century/>.

⁷ Jayanna Krupakr, "China's Naval Base(S) in the Indian Ocean—Signs of a Maritime Grand Strategy?," *Taylor & Francis Online* 14, no. 3 (March 16, 2017), <https://www.tandfonline.com/doi/abs/10.1080/09700161.2017.1296622?journalCode=rsan20>.

⁸ Saad Rasool, "India's Chabahar Debacle," *The Nation*, July 18, 2020, <https://nation.com.pk/19-Jul-2020/india-s-chabahar-debacle>.

towards the Persian Gulf and via active military presence at Djibouti⁹ anchorage.

BRI is China's magnificent effort for increasing influence which Delhi tried to counter by the establishment of Information Fusion Center (IFC)¹⁰ to gather information via linking coastal radar chains in the Indian Ocean and IORA allied countries. Modi's up and down traveling within coastal states of the Indian Ocean for enhanced economic cooperation, connectivity and joint security measures is a practical shift of "Look East" to "Act East"¹¹ policy. The entry of SSBN and Arihant-class SLBM's may add to security threats in the sensitive politico-military zone of IO¹². Alliances in IOR among independent deployer states is paving way for freedom of navigation for secured trade beside great power competition in the region.

The United States of America sees an assortment of potential dangers to its security in the Indian Ocean Region, wavering between pressures from a regional power to non-state players. There are steady security stresses, swaying from SLOCs security to increment in nonconventional weapons¹³. The danger of Islamic expansion is an irritating point significantly. Increasing China's Stealth technology i.e.

⁹ Max Bearak, "In Strategic Djibouti, a Microcosm of China's Growing Foothold in Africa," *Washington Post*, December 30, 2019, https://www.washingtonpost.com/world/africa/in-strategic-djibouti-a-microcosm-of-chinas-growing-foothold-in-africa/2019/12/29/a6e664ea-beab-11e9-a8b0-7ed8a0d5dc5d_story.html.

¹⁰ "Ports and Partnerships: Delhi Invests in Indian Ocean Leadership," *Asia Maritime Transparency Initiative*, December 5, 2019, <https://amti.csis.org/ports-and-partnerships-delhi-invests-in-indian-ocean-leadership/>.

¹¹ K V Kesavan, "India's 'Act East' Policy and Regional Cooperation," *ORF (Observational Research Foundation*, February 14, 2020), <https://www.orfonline.org/expert-speak/indias-act-east-policy-and-regional-cooperation-61375/>.

¹² Prakhar Gupta, "India's Nuclear Submarine Programme Has Reached a New Milestone. Here's All about It," *Swarajyamag*, February 28, 2020, <https://swarajyamag.com/defence/indias-nuclear-submarine-programme-has-reached-a-new-milestone-heres-all-about-it>.

¹³ Swadesh Rana, "A Permanent U.S. Presence in the Indian Ocean," *Taylor & Francis* 3, no. 2 (August 19, 2009), <https://www.tandfonline.com/doi/abs/10.1080/09700167909421487?src=recsys>.

high frequency radars, J-20 and Jian-10 aircrafts¹⁴ may choke down and cause heavy loss to US warfighting line. An increase in the devoted US Indo-pacific command's defense capitals and the absence of British and French interests may cause a power imbalance in IOR¹⁵. The vacuum is probably going to create a ripple in the US safeguard resources from the North to South Pacific by moving 60 percent of its maritime armada to Hawaii.

Considerable power imbalance may be filled by US partners like Australia, India, and possibly Indonesia, who can accept more prominent obligations for IO security in the US absence¹⁶. Maximum utilization of the Sea Lines of Communications (SLOCs) and continuous power show in warm waters of IO might initiate global competition and influencing regional affairs. The conduction of revenge policies and military operations in terrains of Afghanistan after the 9/11 incident may pose serious security threats to the military powers present in IO particularly for the USA. Reorientation of power block after recognizing Israel by UAE and Saudi Arabia creates strategic ripple in power show¹⁷.

Maritime security concerns i.e., SLOCs protection, maritime chokepoints' security measures, Pak-India conflicts, Sino-India rivalry are threatening the stability of the region which may decide prospect domination of IOR. The Indian Ocean is connecting seven seas i.e., the Mediterranean and Red Seas, Indian Ocean, Persian Gulf, China Sea,

¹⁴ "Does China's J-20 Rival Other Stealth Fighters?," ChinaPower Project, February 15, 2017, <https://chinapower.csis.org/china-chengdu-j-20/>.

¹⁵ David Michel and Russell Sticklor, "Indian Ocean Rising: Maritime Security and Policy Challenges," July 2012, https://www.stimson.org/wp-content/files/file-attachments/Book_IOR_2_1.pdf.

¹⁶ Special Reports, "China's Vast Fleet Is Tipping the Balance against U.S. In the Pacific," Reuters, April 30, 2019, <https://www.reuters.com/investigates/special-report/china-army-navy/>.

¹⁷ Al Jazeera, "How the World Reacted to UAE, Israel Normalising Diplomatic Ties," Aljazeera.com (Al Jazeera, August 15, 2020), <https://www.aljazeera.com/news/2020/8/15/how-the-world-reacted-to-uae-israel-normalising-diplomatic-ties>.

and the West and East African Seas¹⁸. It increased the geostrategic and geopolitical importance of these waters as future deciding factor for international politics and trade economy ensuring the 21st century as a century of Asian states.

This research is qualitative in nature employing descriptive chronological discussion targeting theme in the larger perspective. It opinions policy options for various stakeholders of IO for prospect regional security dimensions. As right after AUKUS IO environment is likely to take new strategic power shifts, a trilateral security pact between Australia, the United Kingdom and the United States, announced on 15 September 2021 for the Indo-Pacific region.

2. Shifting trends in IO Maritime Environment after BRI

Under the shadow of the Gramscian principle of hegemony, China is emerging as the Capitalist state of the Indian Ocean Region with the launch of the Belt Road Initiative (BRI). Wherein dealing with the extra-regional powers by strategic military force while on the other hand driving civil society by consent with socio-economic driving factors¹⁹. Shifting of the epicenter of politics from Euro-Atlantic to Indo-Pacific region has been embraced with global geostrategic and politico-economic significance²⁰. US efforts for power prevalence and Chinese economic and military upswing in the region may threaten the unilateral navigation of Washington on the international hegemony theater.

¹⁸ Science Reference Section Library of Congress, "What Are the Seven Seas?," Library of Congress, Washington, D.C. 20540 USA, November 19, 2019, <https://www.loc.gov/everyday-mysteries/item/what-are-the-seven-seas/>.

¹⁹ Richard Howson and Kylie Smith, "Hegemony and the Operation of Consensus and Coercion," In R. Howson & K. M. Smith (Eds.), *Hegemony: Studies in Consensus and Coercion Ch., 1*, January 1, 2008, 1–15, <https://ro.uow.edu.au/era/538/>.

²⁰ Muhammad Shafiq, "Chapter 3 Emerging Geo -Political Realities in Asia Pacific Region," *Islamabad Policy Research Institute (IPRI) Journal XIV* (2014): 81–110, http://www.dsdw2016.dsdw.go.th/doc_pr/ndc_2560-2561/PDF/8611st/5.%E0%B8%9A%E0%B8%97%E0%B8%97%E0%B8%B5%E0%B9%88%203.pdf.

Development of Gwadar port city, under the BRI flagship Project CPEC, may change the role of Pakistan Navy and dynamic presence of the Chinese Navy at the Head of WIO. Due to its strategic location at the steering point towards the Middle East and Hormuz strait focus on regional maneuvering is increased. Decrease in Indian influence at Chahbahar port increase opportunities for Pak-Iran-China (PIC) confluence. This business cum military maneuvering to secure regional SLOCs will bring India and Pakistan face to face in the race of becoming “regional Anchor” (according to US defense policy-2012)²¹ for the broader IO to “Conjoint Security Head” in WIO.

Looking at the other side of the coin, China-India bilateral ties are fraught due to historical disputes with a rising threat to Indian intentions of being NSP in WIO. Friction stems from the 2400-mile border in India’s Arunachal Pradesh and China’s Tibet and the legacy of the 1962 Sino-Indian War along the Himalayan border²². To no surprise, hegemonic thirst may lead to strong retaliation ending into a full-scale conflict in the militarized WIO depending on trade alliances and military cooperation scenarios.

Australian investment in “The South Asia Regional Infrastructure Connectivity” (SARIC) initiative worth more than \$25 million is shifting trend in the strategic maneuvering of IO²³. It equates the Chinese rising trust graph in the IOR states via metastatic signaling with US-backed cooperation blocs and military alliances. Furthermore, China

²¹ Department of Defense United States Of America, “Sustaining US Global Leadership: Priorities for 21st Century Defense.” (Washington: The White House, January 3, 2012), https://www.globalsecurity.org/military/library/policy/dod/defense_guidance201201.pdf.

²² PK Chakravorty, “Sino-Indian War of 1962,” *Indian Historical Review* 44, no. 2 (December 2017): 285–312, <https://doi.org/10.1177/0376983617726649>.

²³ Dipanjan Roy Chaudhury, “Australia Announces Regional Connectivity Initiative in S Asia with India as Pivot,” *The Economic Times*, January 9, 2019, <https://economic.times.indiatimes.com/news/defence/australia-announces-regional-connectivity-initiative-in-s-asia-with-india-as-pivot/articleshow/67459073.cms?from=mdr>.

released a \$3.2 million loan for Kenya²⁴ to develop an infrastructural connection between the port city and Nairobi. It is a strategic as well as an investment dynamic to contain Indian IFC's (connecting through radar signals) and US-backed economic cum military maneuvering in the heart of Indian Ocean²⁵. In 2017, Australian white paper stated to increase cooperation with the IOR coastal states in the sector of WIO maritime security and the enactment of laws. Australian Minderoo foundation's "Ocean flourishing Initiative"²⁶ is a creating sense of collective environmental protection retaliation- towards prospect intense nuclearization of Indian ocean which may affect climatic changes and oceanic health in the wider sense²⁷. Rather than appearing as a military rival, Australia is trying to manage a healthy cooperative environment with joint collaborative and infrastructural investments that may need security measures.

a. Shifting strategic trade routes and control of Chokepoints

Inclining economic strength of Beijing is steering Asia with the launch of BRI and bolstering relations with the Association of Southeast Asian Nations (ASEAN) possibly for new economic world order. Asia Pacific Free Trade Agreement (FTA) proposal by ASEAN members²⁸ created room for the Regional Comprehensive Economic Partnership (RCEP) in 2012 with the membership of five regional economic giants i.e. China, Australia, Japan, South Korea, and New

²⁴ Antony Kamakia et al., "Financing for Development and Socio-Ecological Transitions: A Review of Chinese Investments in Kenya," *Environmental Management and Sustainable Development* 7, no. 2 (March 8, 2018): 34, <https://doi.org/10.5296/emsd.v7i2.12561>.

²⁵ Andrew S. Erickson, Ladwig C. Walter, and Justin D. Mikolay, "Diego Garcia and the United States' Emerging Indian Ocean Strategy," *Asian Security* 6, no. 3 (September 30, 2010): 214–37, <https://doi.org/10.1080/14799855.2010.507408>.

²⁶ "Our Invitation to You from Flourishing Oceans Photo by Reinhard Dirscherl Ullstein Bild via Getty Images," accessed November 8, 2020, https://cdn.minderoo.org/content/uploads/2019/02/06090200/Flourishing-Oceans-Invite_190206-digital-p.pdf.

²⁷ Beenesh Ansari, "Indian Ocean: A Great Game for Strategic and Nuclear Supremacy – SASSI University," South Asian Strategic Stability Institute SAASI University, November 25, 2019, <http://sassi.org.pk/indian-ocean-a-great-game-for-strategic-and-nuclear-supremacy/>.

²⁸ Chris Devonshire Ellis, "Understanding ASEAN's Free Trade Agreements," ASEAN Business News (ASEAN briefing, February 13, 2014), <https://www.aseanbriefing.com/news/understanding-aseans-free-trade-agreements/>.

Zealand. The categoric rise of half of the global GDP holders reduced Transpacific Partnership (TPP), (which was later withdrawn by Washington), further adds an approach for the establishment of the Asian Infrastructure Investment Bank (AIIB) focusing infrastructural development in Asia. China aims to establish Naval ports across the Indian Ocean under BRI's flagship projects which may be an impending threat to extra-regional powers and US-allies in IOR²⁹. Region-centered policies to manage and dominate SLOCs in the last two decades has increased the economic uplift of the Asian countries. These policies replaced USA with China and increased trade share of as primary partner. For instance, India-US trade statistics is 1/8th of the total to Sino-Indian trade volume³⁰, while another comparison states that Indonesian trade statistics is 12.5% with China and 7% with the USA³¹. Even currently, the USA itself is trading with China far more than its trade-sum with Canada. Washington has changed its approach towards china after Trump stepped into the office. Policy shift was observed from "Asia Pivot" to the revised "Indo-Pacific Quad"³² and "free and open Indo Pacific" (FOIP) Policy to deal with trade war and revitalization of regional stakeholders in recent times of COVID-19 health emergency too.

Further analysis of US strategic moves shows that Washington's military commitments in the region of Afghanistan and the Middle East along with modifying Asian polices have become the reason for

²⁹ Jayanna Krupakr, "China's Naval Base(S) in the Indian Ocean—Signs of a Maritime Grand Strategy?," *Taylor & Francis Online* 14, no. 3 (March 16, 2017), <https://www.tandfonline.com/doi/abs/10.1080/09700161.2017.1296622?journalCode=rsan20>.

³⁰ Wei Tian, "China and India: Trends in Trade over the Last Decade," *THE JOURNAL of CHINA and GLOBAL ECONOMICS* 1, no. 1 (2012): 27–38, <https://mjyu.ccer.pku.edu.cn/docs/26.pdf>.

³¹ Mari Pangestu, "China–US Trade War: An Indonesian Perspective," *China Economic Journal* 12, no. 2 (May 4, 2019): 208–30, <https://doi.org/10.1080/17538963.2019.1611084>.

³² Premesha Saha, "From 'Pivot to Asia' to Trump's ARIA: What Drives the US' Current Asia Policy?," ORF (Observational Research Foundation, February 19, 2020), <https://www.orfonline.org/research/from-pivot-to-asia-to-trumps-aria-what-drives-the-us-current-asia-policy-61556/>.

losing control of IOR chokepoints. Rapid fluctuation in the polices also impacts the area of preference and operationalization in comparison to the regional rising giant-China. Shifting of Pacific Command to Indo-Pacific command at Pentagon in 2018³³ with hybrid-warfare tactics depicts the importance of IOR for the USA to retain its hegemony. Recent US efforts for withdrawal from Afghanistan, nuclear-deal with Iran, and peace-agreement with the Taliban are conduits towards winning hegemony race in IOR. As focusing on IO politics and maneuvering will be easy for US leadership after free from these distractions. While the US adherence to FOIP with US\$300 million aid³⁴ and Revival of QUAD is the impetus for the USA to ensure China of its unshakeable presence in Asia. Geostrategic and geo-economics maneuvering of China to entail the Chinese hold on weak and small regional states³⁵ with higher monetary benefits and infrastructural support under BRI may not let the USA rise again (despite new block formation i.e. post Israel acceptance confluence of the USA, KSA and UAE).

The shifting of Obama's 'Asia Pivot' to Trumps' "ARIA" Policy offers Washington a chance to cooperate with Southeast Asian states and allies who are intending to increase their stake in the region³⁶. It is going to be a test of flexibility and freeness for Indo-Pacific theories such as Japan's "Free and Open Indo-Pacific Strategy," Australia's "Foreign Policy White Paper," India's "Act East Policy", and Taiwan's "New Southbound Policy." Washington is putting energies to assure

³³ Caroline Houck, "Pentagon Rebrands PACOM as 'Indo-Pacific Command,'" *Defense One*, May 30, 2018, <https://www.defenseone.com/threats/2018/05/pentagon-rebrands-pacom-indo-pacific-command/148612/>.

³⁴ Reuters Staff, "U.S. Pledges Nearly \$300 Million Security Funding for Indo-Pacific Region," *Reuters*, August 4, 2018, sec. APAC, <https://www.reuters.com/article/us-asean-singapore-usa-security-idUSKBN1KP022>.

³⁵ Nilanthi Samaranayake, "China's Engagement with Smaller South Asian Countries," *United States Institute of Peace*, April 10, 2019, <https://www.usip.org/publications/2019/04/chinas-engagement-smaller-south-asian-countries>.

³⁶ Premesha Saha, "From 'Pivot to Asia' to Trump's ARIA: What Drives the US' Current Asia Policy?," *ORF (Observational Research Foundation)*, February 19, 2020, <https://www.orfonline.org/research/from-pivot-to-asia-to-trumps-aria-what-drives-the-us-current-asia-policy-61556/>.

its regional cohorts to stabilize their duties in promoting regional strength. As in this scenario, India seems to be a conundrum of security and economic arena while fighting internal retaliations due to CAB Bill, Kashmir lockdown since the last eleven months, and ongoing Ladakh crisis³⁷.

Eyeing IO centered policies shows how the region is making a beeline for enthralled security conditions where two blocs (strategic power alliances in IO) may revive cooperation. If not focused on cooperation options, it may result in planting seeds of other extended clash. Despite positive Chinese intentions as per state narrative, realism implications drive the State's tendency to retain economic expansion with all probable entraps. Beijing is endeavoring to keep disrupted issues aside and increment the financial commitment with India³⁸ and Japan through exchange under its model of relationship. The ASEAN states and other Asian countries are additionally not prepared to encounter the results of any future power-clash due to its present financial torments. The eventual fate of Indo Pacific lies with the fundamental territorial partners and the small states that how much they are at ease with China's share-based investments which is in certain states alleged as a debt trap system³⁹.

b. COVID-19 and Oil economies' economic depression

Ongoing COVID-19 pandemic is radically decreasing worldwide activity leading to economic recession. It is the biggest oil-devouring division particularly in the transportation segment. Henceforth, it is difficult to understand that to what range oil costs will go lower as an

³⁷ Pravin Sawhney, "With India's Options in Ladakh Crisis Narrowing, the Way Forward Is High-Level Dialogue," *The Wire*, July 6, 2020, <https://thewire.in/security/with-indias-options-in-the-ladakh-crisis-narrowing-high-level-talks-are-the-way-forward>.

³⁸ Saheli Roy Choudhury, "Three Reasons India Can't Quickly Distance Itself from China despite the Border Clash," *CNBC*, July 6, 2020, <https://www.cnbc.com/2020/07/07/why-india-cannot-disengage-from-china-despite-geopolitical-tensions.html>.

³⁹ Shahar Hameiri, "Debunking the Myth of China's 'Debt-Trap Diplomacy,'" *www.lowyinstitute.org*, September 9, 2020, <https://www.lowyinstitute.org/the-interpreter/debunking-myth-china-s-debt-trap-diplomacy>.

advantage to buyers. While an increase in oil demand is forecasted fact as the coronavirus aftermath.

On 5 March 2020, the Organization of the Petroleum Exporting Countries (OPEC) proposed a 1.5 mbd production cut for Q2 2020, of which 1 mbd would be by OPEC countries and 0.5 mbd from non-OPEC but aligned producers (most prominently, the Russian Federation)⁴⁰. The following day, the Russian Federation rejected the proposal, and Saudi Arabia also announced unprecedented discounts of almost 20% in key markets. The result was a more than 30% plunge in prices to as low as \$31.1 (WTI crude) per barrel on 9 March, and the crisis in the oil industry has continued to worsen. An intensifying recession due to COVID-19 crisis drove global oil prices even further down to \$11.57 per barrel (WTI crude) on 21 April⁴¹.

Lowest oil-shipping rate squeezed trade movements and shifting of focus point from military maneuvering to saving lives in the COVID pandemic. Circuitous impact of economic recession on net oil exporters in post-COVID prism has changed preferences of IO countries and oil economies too. Foreseeably, oil-economies may look for new cooperation to balance their loss via strategic reshaping of alliances in the Western Indian Ocean (WIO) having a deep impact on the power equation and balancing of the region.

c. Shifting regional political focus from Euro-Atlantic to Asia-Pacific zone and nuclearization of IO

Hegelian dialect makes it unacceptable for a hegemon to see declining military might, economic dominance, diplomatic influence, and reducing respect. Failing hegemon keeps trying for the compensation of his loss of respect and influence on the rising hegemon which in turn drags, yet not fully risen hegemon it into a

⁴⁰ Farhad Taghizadeh-Hesary, "Economic Impacts of the COVID-19 Pandemic and Oil Price Collapse," *Asia Pathways*, May 18, 2020, <https://www.asiapathways-adbi.org/2020/05/economic-impacts-covid-19-pandemic-and-oil-price-collapse/>.

⁴¹ *Ibid.*

premature confrontation⁴². Shifting of Politico-economic focus from Euro-Atlantic to Asia-Pacific zone has emerged new military alliances, strategic maneuvering in the Indian Ocean⁴³. Increased usage of Nuclear weapons i.e. nuclear submarines, missile stations, and paralyzing armadas has added armed sight to IO politics. Recalibration of US policies towards the Asia-pacific and Indian Ocean zone may yet not balance the race of declining and rising powers⁴⁴. For instance, Consider the China-US condition in the challenged seas of Asia–Pacific. In the preceding years, Beijing has embraced an extraordinarily increasingly forceful stance opposite regional and oceanic debates with Japan, Vietnam, and the Philippines. While US interest does not incite undeniable showdown over generally minor happenings and challenges. US security policies in the IOR is continuously facing reliability check as Washington cannot challenge Beijing on each incitement. Yet every agitation that goes unchallenged improves China's influence over its neighbors and debilitates America's standing in the region. Chinese deploying navy's combat units for anti-piracy patrols⁴⁵, M-11 missile technology transfer⁴⁶ to Pakistan along with aggressive SCS patrolling. Chinese calculated moves and technology support to Pakistan for increasing submarine squad⁴⁷ has refuted increasing US-India alliance and

⁴² Richard McKeon, "Dialectic and Political Thought and Action," *Ethics* 65, no. 1 (1954): 1–33, <https://www.jstor.org/stable/2378780>.

⁴³ Muhammad Shafiq, "Emerging Trends in Geo-Politics of Asia Pacific Region," *Islamabad Policy Research Institute (IPRI) Journal* XIV. 81-101 (April 2014), https://www.researchgate.net/publication/289317217_Emerging_Trends_in_Geo-politics_of_Asia_Pacific_Region.

⁴⁴ Mercy A. Kuo, "US-China Economic Relations: Impact on the Asia-Pacific Region," *thediplomat.com*, June 7, 2017, <https://thediplomat.com/2017/06/us-china-economic-relations-impact-on-the-asia-pacific-region/>.

⁴⁵ "China's Piracy Patrols – Maritime Security Review," *Maritime Security Review*, January 2, 2019, <http://www.marsecreview.com/2019/01/chinas-piracy-patrols/>.

⁴⁶ Monica Chansoria, "Role of China as Pakistan's Nuclear and Missile Patron," *Indian Defence Review*, November 15, 2010, <http://www.indiandefencereview.com/news/role-of-china-as-pakistans-nuclear-and-missile-patron/3/>.

⁴⁷ H. I. Sutton, "Chinese Navy Submarines Could Become a Reality in Indian Ocean," *Forbes*, June 26, 2020, <https://www.forbes.com/sites/hisutton/2020/06/26/chinese-navy-submarines-could-become-a-reality-in-indian-ocean/?sh=7deb5c0754a6>.

cooperative talks for opening military bases to US navy- for bridging the gap towards China and exchange of weapon technology including anti-submarine warfare (ASW). On the other hand, Chinese submarine patrol to Persian Gulf mentions its resolute presence in IO.

3. Strategic Analysis of Power States Maritime Policies in IO

a. Strategic Analysis of US Maritime Policy in IO: The Indo-pacific region is facing serious security disputes regarding humanitarian, governance, and trade matters. US presence in Indian ocean dates to century but in 1972 Asia-pacific region was given under US Pacific Command's 'area of responsibility'⁴⁸ preceded increased interest after the Arab-Israeli War. The USA has focused in three major areas while developing its Indian Ocean Maritime policy, firstly, continuing Sino-Indian contest, secondly, Due to rising Chinese influence in south china sea and at Malacca strait, chokepoints regulation became a far more immediate concern as US-Iran tussle is going on near Hormuz Strait, thirdly secure international maritime trade routes⁴⁹.

Long-distance from naval bases and continuous efforts to dominate IO would create further difficulties for US. China's attaining anti-access and area denial (A2AD) capabilities will have deep impact on US maritime policy- addressing possible battlefields for the USA and Chinese trade routes. US absence in SCS would open playgrounds as Chinese up the ante by declaring new administrative areas despite Vietnam and the Philippines's criticism⁵⁰, compels the USA to ensure its presence in Southern China. While at the same time managing influential presence and

⁴⁸ "U.S. Indo-Pacific Command > about USINDOPACOM > USPACOM Area of Responsibility," Pacom.mil, November 11, 2020, <https://www.pacom.mil/About-USINDOPACOM/USPACOM-Area-of-Responsibility/>.

⁴⁹ Dr. Satoru Nagao, "Review of 'Defining U.S. Indian Ocean Strategy' | Intelligence Analysis," 笹川平和財団 | 海洋情報 FROM THE OCEANS, accessed November 9, 2020, https://www.spf.org/oceans/analysis_en/c1204-1.html.

⁵⁰ Drake Long, "China Ups Ante in South China Sea with New Place Names, Districts," Benar News, April 20, 2020, <https://www.benarnews.org/english/news/philippine/philippines-china-04202020182553.html>.

defense in depth at Hormoz strait in case of US-Iran full-scale conflict, is stretching the USA in two dimensions. So, in the case, increasing defense resources to the US pacific command is the major focus of pentagon standing along with its largest defense ally SCS-Japan. On the other side, USA responded very inclusively by extending its presence in three dimensions i.e. at Australian HMAS Stirling providing a deep-water port for military maneuvering, secondly, current US investment for up-gradation coco's island runway nearest to Sri Lanka and thirdly, investment in security installations in bay of Bengal to operate aircraft in the region in case of any emergency⁵¹.

US-QUAD policy as a counter-alignment strategy of USA in comparison to BRI's consortium of commerce cum military investment around the Indian Ocean may give tough time to Chinese rise. US covert diplomatic strategies i.e. supporting Indian leadership for acceding LEMOA and COMCASA with India on one hand and increasing investments in Japan ports and Australia on other hand, is a diversified try to 'one size fits all' strategy. Moving close to Chinese terrains, US undercover support to Taiwan's independence may create hurdles for the presence even in South China Sea⁵². So, pentagon backing the rise of democratic Taiwan as key official guarantor and sending peace envoys to Taiwan in November 2019 is an undeniable move to win the US's peaceful presence in IOR. Preserving radiant alliance in IOR is major US focus as currently there is not any hard crisis going on in IO.

Right from 2012, decreasing US presence in IO is continuously increasing Indian naval grip on IOR along with increasing US-India alliance after Indian training to Vietnam and Iran's submarine

⁵¹ Phillip Coorey, "US Military Eyes Cocos Islands as a Future Indian Ocean Spy Base," The Sydney Morning Herald, March 27, 2012, <https://www.smh.com.au/politics/federal/us-military-eyes-cocos-islands-as-a-future-indian-ocean-spy-base-20120327-1vwo0.html>.

⁵² "US Steps up Support for Taiwan to Counter Rising China Pressure," www.aljazeera.com, September 1, 2020, <https://www.aljazeera.com/news/2020/9/1/us-steps-up-support-for-taiwan-to-counter-rising-china-pressure>.

forces and Thailand's aircraft carrier crews⁵³. So, Indian rise as emerging naval power of Blue waters is driving US maritime policy to an effective edge by increasing defense ties, getting US support in NSG, and the US relying on India as a front-line force against china in the region. Pentagon's future move may claw down the Indian economy and Naval power in IO to get a larger range of impact countering Chinese influence in the IOR defending the freedom of navigation at important chokepoints and by offering collective surveillance system based on US satellites.

b. Strategic Analysis of Chinese Maritime Policy in IO:

The consortium of the "Two-Ocean Navy" strategy and "One Belt One Road" OBOR initiative is taking momentum to make china military and economic tycoon of IO. Major Chinese concerns are the risk of war due to the Malacca dilemma, commercial supply lines, increasing US presence in Japan, and South Korea. While on top, threats to freedom of navigation and piracy against Chinese massive commercial fleets in two oceans may spur a serious contention⁵⁴. Contemporary naval hegemon of US in IO has driven Chinese maritime policy to preferentially modernize People Liberation Army Navy (PLAN). Right after US withdrawal from Trans-pacific Partnership regional countries including Australia has begun to increase ties with China⁵⁵. Chinese ports in Siri Lanka, Pakistan, and Djibouti are giving hard economic expansion and safe commercial supply lines to China. While for further safety and protection china has a valid reason to launch its military fleets in the IO field⁵⁶. OBOR progression to the Middle East is also

⁵³ Jan Joel Andersson, "THE RACE to the BOTTOM: Submarine Proliferation and International Security," *Naval War College Review* 68, no. 1 (2015): 12–29, https://www.jstor.org/stable/26397814?seq=1#metadata_info_tab_contents.

⁵⁴ T. Sun and Alex Payette, "CHINA'S TWO OCEAN STRATEGY: Controlling Waterways and the New Silk Road BY Tom (GUORUI) SUN," www.semanticscholar.org, 2017, <https://www.semanticscholar.org/paper/CHINA-%E2%80%99-S-TWO-OCEAN-STRATEGY-%3A-Controlling-and-the-Sun-Payette/1840af9a04093bdcda462873436089578a187bbc>.

⁵⁵ Daniel C. K. Chow, Ian Sheldon, and William McGuire, "How the United States Withdrawal from the Trans-Pacific Partnership Benefits China," papers.ssrn.com (Rochester, NY, August 7, 2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3228007.

⁵⁶ *Ibid.*, 56.

expanding its opportunities for balancing US centralization in IO along with Sub-marine force.

Chinese private protection units for sea-based trades in comparison to the hard military is a strategy to keep the Chinese image soft while in practical Private and public sectors are not far off in China⁵⁷. On the other edge, Chinese military presence under the auspices of the UN-peacekeeping mission and nuclear-driven submarine fleet for protection of SLOCs is schematic plotting in IO⁵⁸. Controlling Hormoz strait by the imminent naval presence at Gwadar after functionalizing CPEC in full swing and subsuming Malacca dilemma by the presence at Hambantota port is part of Chinese maritime strategy to a one-fits-to-all strategy under OBOR. In the way, PLAN has expanded its zone of operation from SCS, yellow sea to WIO in the Persian Gulf. PLAN's Subservience to the Chinese economic rise is transforming its capabilities of self-protection of its SLOCs to the Bluewater navy⁵⁹. US strong presence in East Asian and west pacific countries is a worry for Chinese power projection and intimidation which may get even worse in the case of Taiwan's reunification. While Chinese efforts for free trade zone may pave ways for de-escalation in the region under Maritime Silk Road (MSR) which is currently clawing under-operationalized QUAD policy.

Currently, deployment of 60 Chinese warships, naval support port of Doraleh near Bab-el-Mandeb strait, 093A-Chinese Submarine at Feydhoofinolhu island⁶⁰ is sure to power show

⁵⁷ VEERLE NOUWENS, "Who Guards the 'Maritime Silk Road'?", War on the Rocks, June 24, 2020, <https://warontherocks.com/2020/06/who-guards-the-maritime-silk-road/>.

⁵⁸ Richard Gowan, "China's Pragmatic Approach to UN Peacekeeping," Brookings, September 14, 2020, <https://www.brookings.edu/articles/chinas-pragmatic-approach-to-un-peacekeeping/>.

⁵⁹ Priyanshi Chauhan, "Cooperation against Competition: India and China in the Energy Sector," South Asian Voices, July 16, 2019, <https://southasianvoices.org/cooperation-against-competition-india-china-energy-sector/>.

⁶⁰ "China Naval Modernization: Implications for U.S. Navy Capabilities-Background and Issues for Congress," accessed July 19, 2020, <https://sgp.fas.org/crs/row/RL33153.pdf>.

beside economic rise in IO. US concerns regarding slipping of Chinese submarines in wartimes via Lombok and Sunda Straits may even strangle US presence in SCS despite ongoing verbal clashes due to territorial claims in east Asian countries⁶¹. China is intensifying its maritime diplomacy as in 2012 formation of Maritime Leading Group (MLG), centralizing coast guard's command under PLA by adding military functions to them and efforts for unified maritime law to manage domestic seas. But to no surprise, China is using the traditional path of rising hegemony by ensuring its considerable presence in IO neither pure military nor pure economic.

c. Strategic Analysis of Indian Maritime Policy in IO: Analysis of "Indian Maritime Doctrine" (IMD)-2004 and transforming "Indian Maritime Security Strategy" IMSS-2007 to IMSS-2015 mentions major areas of focus viz; primary and secondary i.e. being "Net Security Provider" rather than regional maritime policeman, Red Sea-Inlet to IO near strait of Babl-e-Mandab, Gulf of Oman, the Gulf of Aden and expanding area of operation by recognizing new chokepoints- the Mozambique Channel and Ombai-Wetar Straits⁶², countering Chinese rising influence by establishing US-alliance and containing conventional rival-Pakistan in all maritime means particularly after 26/11 incident. Modi's announcement of SAGAR vision and shifting from 'look East' to 'Act East' policy by increasing ties with East Asian countries is regional strategic maneuvering under economic progression aegis⁶³. Joining QUAD, QUAD 2.0, US-Indian cooperation under LEMOA and recent entry to the Australia-India Mutual Logistics Support Arrangement (AIMLSA)

⁶¹ H. I. Sutton, "Chinese Navy Submarines Could Become a Reality in Indian Ocean," *Forbes*, June 26, 2020, <https://www.forbes.com/sites/hisutton/2020/06/26/chinese-navy-submarines-could-become-a-reality-in-indian-ocean/?sh=7deb5c0754a6>.

⁶² Gurpreet Singh Khurana, "'Net Security Provider' Defined: An Analysis of India's New Maritime Strategy-2015 | Center for International Maritime Security," *CIMSEC*, December 4, 2015, <https://cimsec.org/net-security-provider-defined-analysis-indias-new-maritime-strategy-2015/>.

⁶³ "SAGAR Vision," *Drishiti IAS*, April 23, 2020, <https://www.drishitias.com/daily-updates/daily-news-editorials/sagar-vision>.

and the Defence Science and Technology Implementing Arrangement (DSTIA) on June 5, 2020⁶⁴ in a virtual conference depicts Indian inclining focus towards military expansion in IO to contain China. Even rising tensions at SCS and Ladakh zone on Sino-Indian borders could not affect Indian policy for affirmative peaceful change.

Being a resurgent maritime state, India has a myriad of interests in IO ranging from economic security, oceanic resources, SLOCs security, and hub of maritime security architecture. Despite the establishment of extra-territorial radar stations and connecting them with the Information Fusion Center (IFC)⁶⁵ at Delhi may not be an enough move to confine Chinese naval presence in IO. As docking of two nuclear Chinese submarine at Colombo port in 2015 strategically keep an eye on Indian feathers⁶⁶. Indian power balancing effort in IOR is failing because Iran struck off India from Chabahar after LEMOA⁶⁷. But rising imbalance can be countered further with the Indo-Russian agreement for upgrading its Kilo-class Submarine and leasing of Nuclear attacking submarine to improve its naval flotilla⁶⁸. In 2017, India signature and agreement to buy High-tech Guardian Drones-Predator B for increasing its grip

⁶⁴ Brad Lendon CNN, "India and Australia Strengthen Military Ties as Tensions Simmer in South China Sea," CNN, June 5, 2020, <https://edition.cnn.com/2020/06/04/asia/india-australia-military-agreements-intl-hnk/index.html>.

⁶⁵ "Ports and Partnerships: Delhi Invests in Indian Ocean Leadership," Asia Maritime Transparency Initiative, December 5, 2019, <https://amti.csis.org/ports-and-partnerships-delhi-invests-in-indian-ocean-leadership/>.

⁶⁶ Vijay Sakhuja, "Chinese Submarines in Sri Lanka Unnerve India: Next Stop Pakistan?," Indian Strategic Studies, May 29, 2015, <https://www.strategicstudyindia.com/2015/06/chinese-submarines-in-sri-lanka-unnerve.html?m=1>.

⁶⁷ Saad Rasool, "India's Chabahar Debacle," The Nation, July 18, 2020, <https://nation.com.pk/19-Jul-2020/india-s-chabahar-debacle>.

⁶⁸ Manu Pubby, "Upgrading Kilo Class Submarines: L&T Set to Partner Russia for Rs 5,000-Crore Defence Deal," *The Economic Times*, June 14, 2018, <https://economictimes.indiatimes.com/news/defence/upgrading-kilo-class-submarines-lt-set-to-partner-russia-for-rs-5000-crore-defence-deal/articleshow/50491411.cms?from=mdr>.

on maritime surveillance in IOR⁶⁹. But these moves are merely hyperbolic rhetoric and bereft of concrete maritime policy to fulfill its aim of being “Net Security Provider” of IO. Nerve center of Indian maritime trade routes in IO may get strangulated in case of increasing Sino-US Conflict in SCS. While QUAD 2.0 is yet not enough to contain China at home ground particularly when India has adjacent borders with China and Chinese naval ports in its backyard. Resultantly rather than containing, china must be engaged in trade and joint security projects while India’s dominant-dependent psyche may cost herself high in the rift of global giants i.e. US and China, to dominate IOR.

d. Strategic Analysis of Australian Maritime Policy in IO:

Australian maritime policy revolves around mature grand strategy including denial, engagement, and reform which aims to address the “air-sea gap” and “continental Imagination”⁷⁰. Canberra Government doesn’t aim to contain China or the USA in any way in fact following “mare incognitum” in the military sense while cooperation and coordination are considered major moves to ensure maritime commons’ and resources security⁷¹. Asia-Pacific Economic and military juxtaposition drags Australia to participate in IO geopolitics. In “Asian century White paper-2012” and “Defense White Paper-2016” has one thing in common that Australia started to consider covert military maneuvering to save its identity neither in offense mode⁷². Shifting trends of securing SLOCs, Chokepoints’ domination, naval bases in the heart of IO,

⁶⁹ Shishir Gupta, “India Eyes Acquisition of Predator-B Drones from US,” Hindustan Times, July 5, 2020, <https://www.hindustantimes.com/india-news/india-eyes-acquisition-of-predator-drones-from-us/story-nVOOMnUWNh7KokbqE9uVYM.html>.

⁷⁰ Abhijit Singh, “An Indian Perspective on Australian Maritime Strategy,” www.lowyinstitute.org, November 12, 2013, <https://www.lowyinstitute.org/the-interpreter/indian-perspective-australian-maritime-strategy>.

⁷¹ Michael Evans, “Maritime Strategy and Australia’s Future in an Asia-Pacific Century,” in *A Joint Institute and Naval Warfare Professional Development*, 2016, <https://www.rusinsw.org.au/Papers/20161103.pdf>.

⁷² Andrew Carr, “No LoNger a MiddLe Power Australia’s Strategy in the 21 St Century Études de L’Ifri,” 2019, https://www.ifri.org/sites/default/files/atoms/files/carr_australia_middle_power_2019.pdf.

and MSRs has attracted Australia to re-orient itself from physical isolation to powerful symbiotic friendships. 38 percent of Australian exports take place with Beijing⁷³, but at the same time, defense and military base offer to the US, AIMSIA and DSTIA with India is making Australia as an important consideration for military reorientation in IO.

The Australian navy has confused the political economy with strategic complexities in sea-power theory by merely focusing on contemporary trade routes and military alliances. AUSINDEX-military exercises and intending participation in Malabar naval exercises (involving 30 friendly countries) under the Indian flag is a sharply increasing potential of Royal Australian Navy (RAN) in the post-COVID-19 edict⁷⁴. This appears to be QUAD's naval alliance in IO against China.

However, Australian presence in the USA led Blue-Dot Network may balance China's BRI by the synergizing blue economy of IORA states⁷⁵. Revisionist policies with strategic threat assessment along with enhancement in a maritime role in IO may strengthen Australia's diplomatic position as a maritime facilitator.

e. Strategic Analysis of Pakistan's Maritime Policy in IO: Analysis of maritime policy approved in 2002 and later diplomatic developments depicts Pakistan's core maritime interests i.e. conservation for the maritime environment, protection and promotion of maritime interests, infrastructural development of coastal zones, and extending naval activeness in WIO⁷⁶. Beside

⁷³ Matthew Cranston, "Australia's Export Share to China Hits Record High 38pc," Australian Financial Review, September 30, 2019, <https://www.afr.com/policy/economy/australia-s-export-share-to-china-hits-record-high-38pc-20190930-p52w9y>.

⁷⁴ Ibid., 73.

⁷⁵ Mercy A. Kuo, "Blue Dot Network: The Belt and Road Alternative," thediplomat.com, April 7, 2020, <https://thediplomat.com/2020/04/blue-dot-network-the-belt-and-road-alternative/>.

⁷⁶ "Understanding Pakistan's Maritime Interests," Quwa, July 13, 2016, <https://quwa.org/2016/07/13/understanding-pakistans-maritime-interests/>.

two ports working in Karachi and Bin Qassim has to bear all the economic and military maneuvering load of the state. Moreover, these two ports were prone to any attack in conflict or war times i.e. operation trident in 1971. For the purpose, Pakistan had to find coastal strategic depth in its territory. After the launch of the BRI flagship project-CPEC in Pakistani terrains, Gwadar appeared as “région la plus sûre” for developing the largest deep seaport and military base along. A journey from ‘sea-blindness’ to ‘sea-awareness’ ended with the launch of the “Maritime Doctrine of Pakistan in 2018 under the banner of MARSEW held at Pakistan Navy War College (PNWC)⁷⁷. “Preserving freedom of Seas” slogan highlights the importance of sea tied economic and maritime security.

In the course of the last twenty years, the Pakistan Navy has developed an edge over the superior Indian Navy by adopting offensive sea denial strategy by increasing primacy of submarines and highly equipped-missile based maritime aircraft⁷⁸. Pakistan adopting No-First-Use policy⁷⁹ in conflict raises its worth as a mature sea guardian despite accurate target maneuvering with the maximum probability of success i.e. locating worth billion Indian submarines and expatriating from its sea borders. Testing of Babur-3, Ra’ad-II, French-built Exocets, and Hatf-VIII is challenging Indian naval sea-based deterrence and balance of power at seas⁸⁰. Looking into a larger frame, LEMOA offered Indian naval bases to the US navy paving way for Chinese trade cum military bases at Hambantota and prospectively at Gwadar⁸¹. Indian Deterrent

⁷⁷ Cdr (Retd) Azam Khan, “Pakistan Launches First Formal Maritime Doctrine,” Global Village Space, February 21, 2019, <https://www.globalvillagespace.com/pakistan-launches-first-formal-maritime-doctrine/>.

⁷⁸ Vijay Sakhuja (2002) Pakistan's Naval strategy: Past and future, Strategic Analysis, 26:4, 493-507, DOI: 10.1080/09700160208450064

⁷⁹ Ibid.

⁸⁰ Khatoon, N. (2020, March 24). The Maiden Test of Pakistan’s Ra’ad II Cruise Missile: An Overview. Retrieved from <http://capsindia.org/files/documents/882329cf-997a-48ca-a86f-c9a3db5f74e0.pdf>

⁸¹ M. K. Bhadrakumar, “US-India Military Alliance Comes into View,” Asia Times, October 26, 2020, <https://asiatimes.com/2020/10/us-india-military-alliance-comes-into-view/>.

patrol by INS Arihant further evolved strategic maneuvering at seas and responded by Pakistan with Regional Maritime Security Patrol (RMSP)⁸². Rather than following the bottom line of security-survival⁸³ shifted its focus to region centric-model of maritime security. Pakistan is not prospecting to balance the presence of Indian and other navies at IO but ensuring its safe and articulated presence around the WIO. Shifting of security trends post 9/11 to post COVID-19 demands a multilateral approach to tackle maritime complexity i.e. securing SLOCs, countering proactive doctrines, oceanic nuclearization. Emergence of new Anti-Iran Block and Indian expulsion from Chabahar after LEMOA⁸⁴ creates strategic opportunities and responsibilities for Pakistan.

4. Potential Challenges for Pakistan

Global power politics has complexed economic development and military presence opportunities for Pakistan and China in the Indian Ocean. Indo-pacific is recognized as an integrated entity by Quad group but Pakistan and China keep Pacific and IO matters separate. Following categoric discussion explains:

a. Security Challenges: Pakistan has strategic interests that emanate from coastline to Exclusive economic zone. Location of two major ports i.e. Karachi and Bin Qasim ports are near eastern borders which lessens their strategic importance in case of war and crisis. Security of SLOCs, operationalization of Gwadar port, radicalization in the Middle East and South Asia may pose threats to maritime developments. Weapon, drugs and human trafficking through Pakistani waters may question mark national interests and security. Indian intentions to subvert CPEC and Gwadar port by

⁸² Sohail Azmie, "Regional Maritime Security Patrols (RMSP) | Pakistan Today," Pakistan Today, June 3, 2019, <https://archive.pakistantoday.com.pk/2019/06/03/regional-maritime-security-patrols-rmsp/>.

⁸³ Barry Buzan, 2003. *Regions and Powers*.

⁸⁴ Saad Rasool, "India's Chabahar Debacle," The Nation, July 18, 2020, <https://nation.com.pk/19-Jul-2020/india-s-chabahar-debacle>.

indirect militancy and backing separatist Baluch is rising concern for Pakistan. Increasing trilateral partnerships-Pak-Iran-China (PIC) may assist in active WIO presence.

b. Blue Economy Challenges: Securing sea resources and the fifth water province of Pakistan is becoming essential due to increased dependency on sea-based trade. Extension of EEZ has opened opportunities for Pakistan but at the same time marine pollution, oil spilling, lacking a supply of good quality fish along with sharp climatic changes are present-day challenges.

c. Tourism Development: Unattended maritime zones in Pakistan needs to be developed under proper planning to utilize it to maximum potential. Security and elevated aids are a major challenge towards coastal and marine tourism expansion in Pakistan.

d. Strategic Alliances: Pakistan could not afford to stand against strategic military maritime alliances in IO despite increasing cooperation from the Chinese government in infrastructural projects. Developing trade, surveillance, and security alliance with QUAD and IOR countries may pose a high cost to maintain its presence in WIO.

e. Task Force Participation: Participation in CTF-150, CTF-151, and later self-called RMSP has improved Pakistan's international maritime image. Being the part of UN-based peacekeeping, anti-piracy operations, refugee rehabilitation in WIO zones may increase the role of Pakistan as a front-line allied security state.

f. Debt Trap Diplomacy: CPEC served as a regional game-changer in a larger perspective along with an increased level of challenges for Pakistan. Increased security parameters, the task force for protecting such a huge project, converging Baluch dissenter's interest to make the project successful. Debt trap diplomacy under shadow of CPEC is an undeniable challenge for Pakistan to secure its independent future beside governed colony.

5. Estimated Opportunities for Pakistan

Increasing influence range and maritime awareness has extended opportunities for Pakistan in a larger frame.

a. Development of perennial coastal resorts: Pakistan has a 1000 km long coastline with extensively mesmerizing natural sights and beaches. Under a project of coastal development-perennial resorts i.e. one resort within every 100 km will increase tourism, employment, and soft-image.

b. Agreements on International Ship and Port facility: Signing of agreements for International ships, crew employment and availability port facility in the friendly countries and trade alliances may serve purpose of secure trading and peaceful international presence for Pakistan.

c. Artificial Island development: Large investments such as CPEC and Gwadar port development may design the bright economic future of Pakistan. Development of artificial islands in contiguous and EEZ may increase marine tourism, security extension opportunities, and within-sea radar and military stations.

d. Provision of shortest trade routes for China, CARs, and Afghanistan: Pakistan provides shortest trade routes to landlock states i.e. Afghanistan, CARs, and western Chinese provinces. It may be utilized with flexible trade policies to attract countries to depend on Pakistan for sea-based trade increasing revenue generation opportunities. CPEC has converged interests of states in Pakistan with linkage to Europe via highways and railroads.

e. Development of IFCs: Assisted information fusion centers with allied maritime countries and military bases around the country may help to manage information and response. Furthermore, a parallel IFC for human capital may be created to get skilled minds and force for interpreting better future dreams to reality.

f. Security development and assistance in western IO:

Development of TF-88 for securing Gwadar port and advanced security trends under regional security complex may raise Pakistan's status for security provision. Pakistan may launch new taskforces for regional security projects promoting skilled employment and revenue generation. Inclusion of Chinese JH-7, J-20, Jain-10 and Pakistani JF-17 into maritime air combat squad may effectively reduce Indian threats.

6. Proposed Maritime Security Strategy of Pakistan (MSSP)

Maritime Doctrine of Pakistan (MDP)-2018 has given vast insight over the navy's role in nuclearized IO, the perspective of national security relationship with Pakistan Navy, and its war fighting philosophy. Comprehensive and strategic analysis of the IO environment and policy analysis of active states extracts important dimensions to be followed for developing MSSP.

- i. Pakistan must issue a duly revised National Maritime Policy (NMP) and National Maritime Strategy (NMS) commensurate with contemporary needs focusing to complete and mature its sea-based deterrence potential.
- ii. US-India collaboration in IO should be balanced by increasing collaboration with China under CPEC to advance cause of blue economy along with investment in security of Gwadar port and maritime related projects of CPEC
- iii. China is biggest investor in Pakistan under CPEC so expansion of scope and periodicity of PN-PLAN joint exercises along with regular port visits by PN/PLAN to each other ports may increase mutual reliance.
- iv. Indo-pacific merging seems implausible for Pakistan, so it may increase the security of its SLOCs, international container ports, and comprehensive sea protocol for law enforcement agencies which ensure national economic interests and geostrategic converging in the North Arabian Sea.

- v. Discarding neighbour's idea of "Net security Provider", Pakistan may increase its cooperation under the banner of RMSP by further developing a conjoint patrol force serving the needs of all regional stakeholders.
- vi. Extending submarine squad with SSBNs and SSGNs with assured second-strike capability may raise PN status in the IO navies.
- vii. Increased budget allocation for indigenous maritime excellence centers for research and policy development will further enhance the importance of tri-service force.
- viii. Development and integration of advanced technologies i.e. internet protocol surveillance system, CO2 and metal detectors, x-ray and infra-red detectors for non-intrusive check along with underwater and aerial security systems.
- xi. "Science and technology" transfer, "security surveillance" and technical information sharing centers should be developed for cohesiveness and more shrewd naval moves in IO under AMAN exercise banner.
- x. Reorienting focus of foreign policy and military security to oceans for marine production and improving oceanic health which may serve the purpose of MDGs and the Growth of Pakistan's Blue Economy.

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Strategic Impact of Submarines in Indo - Pak Wars

A Comparative Analysis[#]

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Abstract

A lot has been written on the conduct of 1965 and 1971 wars by both Indian and Pakistani sides but most literature focuses on land warfare. Naval aspects of these wars are covered in the official histories and other books mainly written by Indian authors. No dedicated literature is available focusing on submarine operations. In 1961, the quest for submarines was commenced simultaneously by both Indian and Pakistani navies. The first submarine PNS/M GHAZI was acquired by Pakistan in 1964 whereas the first Indian submarine INS/M KALVARI was commissioned as late as 1967. The disadvantage of not having a submarine by IN was glaring in the 1965 war when IN was mostly confined to its own waters. In the 1971 war, both sides possessed submarines. Pakistani submarines created strategic cum tactical effects in both eastern and western theatres. PNS/M GHAZI's over 3000 miles long voyage to the Indian east coast restricted IN aircraft carrier to Andaman Islands. PNS/M HANGOR's sinking of INS KHUKRI on 9 December 1971 with 18 officers and 176 men on board changed the balance of war after IN's devastating attacks on PN ships and Karachi on 4th and 8th December 1971. This article is an endeavour to analyse the roles played by submarine arms of IN and PN in Indo-Pak wars. The article also examines as to why PN submarines were more effective at the strategic and tactical levels vis a vis their counterparts in IN. Due to dearth of credible sources, PN submarines' narrative is built upon eye witness accounts whereas IN events have been taken from credible Indian sources.

Keywords: Pakistan Navy, Indian Navy, PNS/M GHAZI, PNS/M HANGOR, INS KHUKRI, 1965 war, 1971 War

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#This research is an outcome of personal interviews of XO PNS/M GHAZI in 1965 war and CO PNS/M HANGOR in 1971 war. Certain inputs were also taken from an under-training officer on PNS/M GHAZI in 1965 war and Weapons Officers and Signals Communication Officer of PNS/M HANGOR in 1971 war. In addition, Chief Ordnance Artificer on board PNS/M HANGOR also provided input. Other officers also provided input but they did not want their names to be put in reference list therefore certain names have been omitted. The account on the Pakistan side has thus been directly taken from primary sources. One major handicap was the time elapsed since 1971; some officers could not recall the events in entirety. The author therefore collated various sources and events to develop the narrative. Some gaps may be felt by the reader but it was inevitable.

For the Indian side the research has primarily banked upon the books written by Admiral S M Nanda, Vice Admiral Mihir K Roy and Vice Admiral S N Kohli and “Transition to Triumph” history of Indian Navy. Some narratives differed between the sources which have been ironed out by the author. Internet sources though found very informative but have been used sparingly.

1. Introduction

On 9 December 1971, Pakistan Navy Submarine HANGOR (PNS/M HANGOR) sank Indian Navy Ship KHUKRI (INS KHUKRI) off the Indian west coast with 18 officers and 176 men on board. Though sinking of INS KHUKRI was a tactical action but it had effects in the strategic realm as it recoiled IN with all further planned naval offensives against Pakistan being called off.¹

Though a lot has been written on 1971 naval operations but submarine operations have not been covered separately. This article mostly relies on the eye witness accounts of events. The events were juxtaposed over the accounts narrated by the Indian side to develop a

¹. Iain Ballantyne, *The Deadly Trade: A History of Submarine Warfare from Archimedes to the Present* (London: Weidenfeld & Nicolson, 2019), 547.

full account. This is truer for the events of Pakistan Navy Submarine GHAZI (PNS/M GHAZI) and PNS/M HANGOR. This article also covers the important narrative of PNS/M MANGRO and PNS/M SHUSHUK in 1971 war.

The article will therefore give an insight into submarine operations by both sides in Indo-Pak wars. The first part of article describes the birth of Pakistani and Indian Navy submarine arms and explains why IN did not possess a submarine until 1967. Then the role of PNS/M GHAZI in the 1965 naval war is discussed. Discussion on sinking of PNS/M GHAZI in 1971 war is then followed. Subsequently an incisive analysis of attack by PNS/M HANGOR on INS KHUKRI is discussed. Most of the doctrinal lessons learnt from PNS/M HANGOR's action are applicable in today's ASW environment.

2. The Birth of Submarine Arms

India and Pakistan simultaneously commenced the efforts to induct submarines at the beginning of 1960s. Both sides approached the Royal Navy (RN) for initial training of their submarine crews. From 1962, onwards IN officers went to UK for submarine training.² In the same timeframe four Pakistani officers and fourteen sailors also went to UK for submarine training from September 1962 to March 1963.³ Being part of SEATO and CENTO, USA agreed to lease a Fleet class submarine, USS DIABLO to Pakistan Navy under the Mutual Defence Programme.⁴ In June 1964, USS DIABLO was commissioned in PN as PNS/M GHAZI.⁵ The acquisition of PNS/M GHAZI created an imbalance between the two navies which IN tried to redress subsequently.

In 1964, Indian Government also approached the United States for loan of three Fleet class submarines. Apart from the imbalance

². Mihir K Roy, *War in the Indian Ocean* (New Delhi: Lancer Publ, 1995), 5.

³. Pakistan Navy Submarine Force 25th Anniversary Edition, The Pioneers, Page 5.

⁴. Ibid, page 12.

⁵. History Section Naval Headquarters, *Story of Pakistan Navy 1947-1972* (1991) 209.

created by PNS/M GHAZI, the premise of Indian delegation was also to train IN fleet in realistic ASW tactics. The request of Indian delegation was not entertained by the US.⁶ Instead they were told to contact their traditional supplier, the Royal Navy. Subsequently, another high level Indian delegation visited UK for placing the order for three Oberon class submarines on deferred payment. This request of the Indian delegation was also denied for various reasons.⁷ Consequently, Indians turned to the Soviets who were keen to sell their submarines to India. Eventually in 1967, the first of three Foxtrot class submarines, INS KALWARI was commissioned in IN.⁸

3. Role of PN Submarine GHAZI in the 1965 Indo-Pak War

Before the onset of 1965 war, induction of PNS/M GHAZI had somewhat tilted the balance of naval power between the two South Asian neighbours. Before the start of 1965 war most of the Indian ships were in Bay of Bengal due a perceived threat to Andaman Islands from the Indonesians.⁹ Some ships were also engaged in ASW exercise with an RN submarine RNS/M ASTUTE.¹⁰ According to IN estimates the war with Pakistan was not imminent until November/December 1965. Therefore their capital ships, aircraft carrier INS VIKRANT and cruiser INS DELHI were put in the dock to be ready by end of end year 1965.¹¹ As per Indian Government policy 1965 war was to be kept localised. Therefore role of Indian Navy in the war was not envisaged.¹² It was purely to be a war on land with the support of Indian Air Force. On formal commencement of hostilities on land the Indian fleet was called back from Bay of Bengal to Bombay. After necessary preparations and topping up in harbour,

⁶. Roy, *War in the Indian Ocean*, 109.

⁷. Ibid, 110.

⁸. Ibid, 112.

⁹. G M Hiranandani, *Transition to Triumph: History of the Indian Navy 1965-1975* (New Delhi: Director Personnel Services (Dps) ; New Delhi London, 2000), 48.

¹⁰. Ibid.

¹¹. Ibid.

¹². Ibid, 50.

IN units were ready for war four days after commencement of hostilities.¹³

In the meantime a Joint Secretary in Indian Ministry of Defence (MoD) sent restrictive instructions to IN. The instructions ordered IN not to venture north of PORBANDAR latitude and not to initiate any offensive action at sea against Pakistan unless forced to do so.¹⁴ Pre-war deployment of IN in Bay of Bengal and restrictions by Indian Government paved the way for Pakistani flotilla to attack DWARKA. INS TALWAR stationed at OKHA picked up the Pakistani flotilla attacking DWARKA on its sensors but did not sail out. The ship was tasked by Indian Naval Headquarters (NHQ) to go and report the damage to DWARKA only next morning.¹⁵

During this time, IN operated south of the latitude of PORBANDAR augmenting the aerial efforts to localise PN Fleet for seeking battle. The pre-dominant threat to IN fleet continued to be from PNS/M GHAZI. Eventually on 22 September 1965, just one day before end of hostilities, PNS/M GHAZI detected Indian ships. PNS/M GHAZI fired a salvo of four contact pistol torpedoes on the Indian frigate.¹⁶ The torpedoes after hitting the target did not explode. One possible reason for their non-explosion was the old vintage of high explosive being that was over 25 years old.¹⁷ In conclusion, at the strategic level PNS/M GHAZI posed a perpetual threat to the Indian fleet in IN's restrictive Area of Operations. At the tactical level, PNS/M GHAZI engaged the IN frigate (possibly INS BRAHMAPUTRA) but the target was not damaged due to malfunction of torpedoes' firing pistols.

¹³. Roy, *War in the Indian Ocean*, 88.

¹⁴. Hiranandani, *Transition to Triumph*, 50.

¹⁵. Roy, *War in the Indian Ocean*, 88.

¹⁶. Ballantyne, *The Deadly Trade*, 539.

¹⁷. XO PNS/M GHAZI, *Interview with XO PNS/M GHAZI during 1965 war*, June 2020..

4. 1971 Indo- Pakistan War

This part will mainly focus on the role played by submarines in the eastern and western theatres respectively. By the time 1971 war started, Indian and Pakistani navies possessed submarines. Pakistan Navy had PNS/M GHAZI and three Daphne class French origin submarines; which were considered as the best conventional submarines at that time.¹⁸ IN entered the war with three Foxtrot class submarines of Soviet origin.¹⁹

As the clouds of war drew nearer IN planners were sure that PN submarines because of their superior offensive capability will be the main punch of PN. They had also envisaged that IN capital ships particularly aircraft carrier INS VIKRANT would be the most sought after target by PN submarines.²⁰ To keep the carrier out of the harm's way, IN created the Eastern Naval Command (ENC) at Visakhapatnam on the east coast. ENC was created on 1 November 1971, just one month before the start of war. INS VIKRANT along with one submarine, one destroyer, two frigates, one Petya class, five patrol craft and three landing ships were placed under C in C Eastern Naval Command (ENC).²¹ This bifurcation was contested by Flag Officer C in C Western Naval Command (FO C in C WNC), Vice Admiral S N Kohli, who forwarded his discontent in writing to the Indian Naval Headquarters (NHQ).²² The discontent was so blatant that Indian Naval Chief, Admiral Nanda decided to personally visit units of WNC to pacify the matter.²³

¹⁸. Ian Cardozo, *The Sinking of INS Khukri: Survivors' Stories* (New Delhi Lotus Collection, 2006).

¹⁹. Ibid, 332.

²⁰. S M Nanda, *The Man Who Bombed Karachi: A Memoir* (Noida, Uttar Pradesh, India: Harpercollins Publishers, 2015)..

²¹. Ibid, 308.

²². Ibid, 196.

²³. Roy, *War in the Indian Ocean*, 193.

5. The Eastern Theatre - PNS/M GHAZI

IN also appreciated that putting INS VIKRANT at Vishakhapatnam had somehow mitigated the PN submarine threat.²⁴ In IN's reckoning there was one platform, PNS/M GHAZI that had the reach and wherewithal to pose a threat to the Indian carrier.²⁵ To ensure safety of the carrier INS VIKRANT was placed in the safe anchorage of Andaman Islands, 1200 miles from the east coast of India.²⁶ One possible reason of deploying carrier away was the threat generated by PNS/M GHAZI. Therefore the deployment of PNS/M GHAZI created strategic effects. This is reaffirmed by Rifleman III Journal in its article titled "Last Voyage of Ghazi". It stated "Although it ultimately failed, the nearly 3,000 mile voyage of PNS/M GHAZI was extremely daring and had it succeeded, it would have changed the balance of power during the war".²⁷

PNS/M GHAZI sailed on 14 November 1971 to hunt the Indian carrier and mine Visakhapatnam harbour. Her weapon outfit consisted of 14 torpedoes and 20 French origin mines. The submarine undertook a transit of over 3000 NM undetected along the Indian coast and arrived to mine Vishakhapatnam harbour.²⁸ As per many estimates she sank on the night of 3 December 1971 on the mouth of Vishakhapatnam harbour in just 33 meters of water.²⁹ Till such time that PNS/M GHAZI was not destroyed by a self-explosion, INS VIKRANT remained at Andaman.

²⁴. Before the start of 1971 war the carrier was non-operational due to her ruptured boiler tubes, however some tubes were plugged and the speed of the carrier was restricted to only 14 knots. This affected her operations in the eastern theatre when it could not launch or recover aircraft due to less wind speed.

²⁵. Nanda, *The Man who Bombed Karachi*, 196.

²⁶. Roy, *War in the Indian Ocean*, 193.

²⁷. "Last Voyage of PNS Ghazi 1971," December 24, 2015, [https://wwiafterwwii.wordpress.com/2015/12/24/last-voyage-of-pns-ghazi-1971/..](https://wwiafterwwii.wordpress.com/2015/12/24/last-voyage-of-pns-ghazi-1971/)

²⁸. Hiranandani, *Transition to Triumph*, 148.

²⁹. Ibid.

The heroics of the Commanding Officer and crew of PNS/M GHAZI are legendary. They sacrificed their lives and almost completed the task assigned to them. The wreckage of PNS/M GHAZI will continue to be a testimony of the great professional acumen and devotion of the crew to eternally lie in the backyard of the enemy. PNS/M GHAZI in the middle of the night with rudimentary navigational aids arrived on time, in the correct position for mining the harbour. Possibly a submarine officer can better appreciate this daring and extremely difficult task. Pakistan will always be indebted to the great sacrifice of PNS/M GHAZI's crew.

6. The Western Theatre

a. PN Submarines: As per IN estimates the threat of PN submarines was pre-dominant in the western theatre. IN had moved its capital ships to the eastern theatre to mitigate PN submarines threat. PN had deployed three Daphne class submarines along the Indian coast north of Bombay. PN Daphne class submarines sailed in third week of November 1971 for war patrols off the Indian west coast with instructions not to take any offensive action until authorised.³⁰ To avoid PN submarines, IN units were transiting through shallow waters close to Indian west coast. Details of operations by PN submarines are given below.

b. PNS/M HANGOR: Being the senior most submarine with the most experienced Commanding Officer; PNS/M HANGOR was chosen to be deployed in patrol area off Bombay. The submarine had already conducted a war patrol in the same area in August 1971.³¹ On the other side, IN had calculated that because of the threat of midgets and chariots with PN, it was not safe to keep the fleet inside BOMBAY harbour. IN thus decided to put Indian Western Fleet to sea.³² The Indian western fleet sailed on the night of 2 December 1971. The fleet immediately encountered PNS/M

³⁰. CO PNS/M MANGRO, *Interview with CO PNS/M MANGRO*, June 2020.

³¹. CO HANGOR, *Interview with CO HANGOR in 1971*, June 2020.

³². Nanda, *The Man Who Bombed Karachi*, 218.

HANGOR patrolling off BOMBAY. PNS/M HANGOR tracked the Indian flotilla from about 2300 on 2 December to 0100 on 3 December 1971 without engaging them.³³ She made the Enemy Contact Report (ECR) at 0800 on 3 December 1971. This transmission of PNS/M HANGOR was picked up by IN Direction Finding (DF) stations forewarning the Indian authorities ashore.

There is one school of thought claiming that the war in the eastern theatre was raging since 22 November 1971. Therefore PNS/M HANGOR should have engaged the Indian Fleet. The sinking of major units of Indian western flotilla would have tilted the naval war in PN's favour. But this is an over simplification of argument. Unlike Army and Air Force, naval forces operate in the same maritime environment. Naval forces are therefore liable to come face to face with enemy units especially during pre-hostilities period. This then implies that Commanding Officers should strictly adhere to the Rules of Engagement (ROEs) and instructions of the higher command. This has become all the more important in the contemporary environments where submarines are also expected to play a strategic role.

c. Sinking of INS KHUKRI: Few days after remaining in her patrol area off BOMBAY the Ops Room team of PNS/M HANGOR realised that most of the Indian commercial and warships were following shallow water route. There was hardly any chance of engaging a target in the area off Bombay. On 6 December 1971, PNS/M HANGOR decided to shift her patrol area and move north.³⁴ As per principles of water space management the submarine was to take permission from senior authorities ashore for shifting of its area. In order to obtain permission PNS/M HANGOR transmitted in the

³³. Ibid.

³⁴. HANGOR, *Interview with CO HANGOR*, 2020

High Frequency (HF) spectrum. This transmission was again picked up by Indian DF stations.³⁵

IN HQ was now sure of the submarine presence with a rough datum established 30 miles south west off Diu Head. It must be remembered that by this time IN had already carried out two attacks on PN units, Karachi anchorage and harbour. The state in the IN HQ was euphoric because of successful attacks on PN and Karachi. C in C, Western Naval Command (WNC) decided to prosecute the submarine contact adhering to the principle of offensive action.³⁶

French ASW doctrine recommends that the best way to fight a submarine is to avoid it.³⁷ This implies that once the position of a conventional submarine is fairly known then the best course of action is to just direct own forces to avoid that Submarine Probability Area (SPA). This will frustrate the submarine for want of targets and force it to commit indiscretions and take more risks. Or else Air ASW may be the preferred option against threatening submarine. This approach also adheres to the principle of economy of effort. Own surface forces can then be spared for other important ASW tasks.

On termination of 1971 war the post war enquiry by IN deliberated the decision of prosecuting PNS/M HANGOR having superior anti-ship weapons and sensors. Particularly when it was known that IN ASW ships had inferior ASW capability. The question under deliberation was "Should ASW operation been launched at all?" The consensus was that "in war it is unacceptable to let an

³⁵. Nanda, *The Man who Bombed Karachi*, 227.

³⁶. Ibid.

³⁷. The author did his Anti-submarine warfare specialisation from France in 1984. The Course Officer taught that one does not need to fight the submarine once it is located as it requires colossal effort and risk. The best way is to not let own ships transit Submarine Probability Area. It is now opined that Air ASW effort is most economical and effective particularly against conventional submarines.

enemy submarine threaten you on your doorstep - it has to be hunted".³⁸

7. Deployment of IN Anti-Submarine Warfare (ASW) Forces

It was appreciated in the IN HQ that PN submarines enjoyed range advantage and were technologically superior to the Indian surface ASW forces.³⁹ The obvious choice to prosecute PNS/M HANGOR was air ASW forces. Indian air ASW elements comprised French Alize aircraft for surveillance & detection supported by newly inducted Seaking ASW helicopters. IN decided to deploy surface ASW forces from 14th ASW squadron comprising of Type 14 Frigates, INS KHUKRI, INS KIRPAN and INS KUTHAR against PNS/M HANGOR. The squadron was ordered to sail at 0500 on 08 December 1971 with Captain Mahendra Nath Mulla as Squadron Commander on board INS KHUKRI. INS KUTHAR developed a serious defect in her boiler tubes thereby delaying the sailing of other ships. Finally, only two ASW ships INS KHUKRI and INS KIRPAN sailed from BOMBAY to hunt PNS/M HANGOR off Diu Head.⁴⁰

8. Conduct of ASW Search by IN's 14th ASW Squadron

The tactics employed to conduct ASW search by the IN's 14th ASW squadron were not as per doctrine. Deployment of compatible ASW forces is the purview of Fleet Commander. Commander 14th ASW Squadron as "On Scene ASW Commander" was to employ correct ASW tactics. The Air ASW elements were not fully integrated in the ASW plan.⁴¹ Therefore the ASW ships were at a tactically disadvantageous position vis a vis submarine. This aspect was also deliberated by the Post-war enquiry of IN. The question was "Were the two frigates and Seakings deployed on 8 December adequate to

³⁸. Hiranandani, *Transition to Triumph*, 210.

³⁹. Nanda, *The Man who Bombed Karachi*, 226.

⁴⁰. S N Kohli, *We Dared: Maritime Operations in the 1971 Indo-Pak War* (New Delhi: Lancer International, 1989), 76.

⁴¹. Roy, *War in the Indian Ocean*, 235.

cope with a Daphne submarine?" The answer was that the Seakings could be better deployed at Diu in support of ASW ships but they were defenceless against air threat from Pakistan, they were therefore operating from BOMBAY. Super Connie maritime recce aircraft and Alize anti-submarine aircraft could have been better utilised right from the start.⁴²

PNS/M HANGOR was commanded by an experienced Commanding Officer fighting his second war. The CO was backed by a crew who had done a patrol in the same area only one month prior the war.⁴³ Weapons and sensors of PNS/M HANGOR were technologically superior to the surface ASW forces.

The area chosen to carry out ASW by the IN's 14th ASW squadron was in shallow waters of around 60 meters depth. On the area chosen by IN ASW ships, Ian Ballantyne in his book "Deadly Trade, The Complete History of Submarine Warfare from Archimedes to Present" commented "They seemed keen on protecting themselves by sticking to shallow waters where they thought submarines would be unlikely to venture".⁴⁴ Obviously, the most probable submarine area was beyond 100 meters line. PNS/M HANGOR was patrolling that area. Carrying out ASW in shallow waters, whilst transmitting on active sonar was a serious tactical aberration of ASW ships.

As soon as Indian ASW ships arrived in the SPA they were picked up by the submarine. PNS/M HANGOR tracked the transmitting ASW ships; established their position and pattern of manoeuvre. The ships were carrying out ASW search in a rectangle with a predictable pattern; PNS/M HANGOR plotted this pattern.⁴⁵ After having established the pattern of manoeuvre PNS/M HANGOR crossed into shallow waters with 60 meters depth "almost scraping the bottom".⁴⁶ The bathy gradient was isothermal giving advantage to ASW forces.

⁴². Hiranandani, *Transition to Triumph*, 210.

⁴³. HANGOR, *Interview with CO PNS/HANGOR*, 2020.

⁴⁴. Ballantyne, *The Deadly Trade*, page 541.

⁴⁵. Rear Admiral R A Qadri, 1997, *Sentinels of the Sea, We sank the Khukri*, page 69.

⁴⁶. Ballantyne, *The Deadly Trade*, 542.

At 1900, after confirming the ranges of two ASW ships, she took the firing position. The ships were in line abreast formation transmitting on their sonars. The ships were carrying out narrow weave while proceeding at a mean speed of 10 knots.⁴⁷

The slow speed of the formation against ASW doctrine is attributed to the decision by WNC to allow Bhabha Atomic Research Centre (BARC) team to continue with the project for improving the performance of 170/174 sonars. Lt V K Jain, the project officer at BARC boarded INS KHUKRI on 6 December 1971.⁴⁸ Allowing R & D on main sonar in the middle of the war in the SPA endangered ASW ships. This question was also deliberated by Post-war Enquiry on the loss of INS KHUKRI. The modification equipment had already been tried in the last sea trip of 2nd December 1971. CO INS KHUKRI had detailed discussion on the pros and cons of doing slow speed to increase the range vis a vis higher speed and lesser detection ranges. "A conscious decision was taken by him to do slow speed".⁴⁹

PNS/M HANGOR positioned herself on a northerly heading in a manner that INS KIRPAN was on its port bow (left side) and INS KHUKRI was on its starboard bow (right side). ASW ships were doing on a westerly leg.⁵⁰ PNS/M HANGOR fired the first torpedo at 1957, Pakistan Standard Time (PST) on INS KIRPAN from a depth of 40 meters. The torpedo acquired the target but passed underneath the target without explosion.⁵¹ As per US doctrine, a submarine after firing a torpedo at such close range must go deep and carry out evasion.⁵² Instead, PNS/M HANGOR shifted the target to fire another

⁴⁷. To ensure that submarine cannot arrive at a firing solution ASW ships randomly alter courses. There are different patterns given in the ASW doctrine. When the alteration of course is small then it is called "Narrow Weave", when it is rather large then it is known as "Broad Weave".

⁴⁸. Cardozo, *The Sinking of INS Khukri*, 2006.

⁴⁹. Hiranandani, *Transition to Triumph*, 210.

⁵⁰. Ibid, 206.

⁵¹. Rear Admiral R A Qadri, 1997, *Sentinels of the Sea, We sank the Khukri*, page. 70.

⁵². MANGRO, *Interview with CO PNS/M MANGRO*, 2020.

homing torpedo on a nearer ship which by now was on opening.⁵³ The torpedo hit INS KHUKRI below the magazine sinking it within two minutes with 18 officers and 176 men.⁵⁴ INS KHUKRI as per ASW doctrine was not streaming a UNIFOXER.⁵⁵ This simple device could have saved the ship. This question was also deliberated by the Enquiry on the Loss of INS KHUKRI. The committee concluded that this too was a conscious decision of the ship to reduce own noise for better submarine detection.⁵⁶

Captain M N Mulla, the Squadron Commander and CO of INS KHUKRI acted against the standard practice to save himself. After the explosion he gave his life jacket to a young sailor, lit his cigarette and drowned with the ship.⁵⁷ INS KIRPAN upon seeing the explosion on INS KHUKRI immediately opened out as per ASW doctrine. She fired some SQUIDS (anti-submarine weapons) which were distantly heard by PNS/M HANGOR. According to CO KIRPAN after firing few salvos her ASW mortars became non-operational. He then faced a dilemma whether to stop and recover survivors of INS KHUKRI by lowering his boats or leave the area to repair his ASW weapons.⁵⁸ INS KIRPAN left the area and returned after 13 hours the next day in company of patrol craft INS KATCHALL to recover 67 survivors of INS KHUKRI.⁵⁹

9. Operation FALCON

Sinking of INS KHUKRI led to a massive hunt for PNS/M HANGOR by IN under the ASW operation code named Operation FALCON. Operation FALCON was conducted by IN WNC with all available ASW ships and air ASW assets supported by Indian Air Force (IAF) surveillance aircrafts. Despite many claims of sinking by IN ASW

⁵³. HANGOR, *Interview with CO PNS/HANGOR*, 2020.

⁵⁴. Ballantyne, *The Deadly Trade*, 542.

⁵⁵. A UNIFOXER is a mechanical device towed behind the ship that makes loud noise to distract incoming homing torpedoes. Resultantly the torpedo homes on to UNIFOXER saving the ship.

⁵⁶. Hiranandani, *Transition to Triumph*, 211.

⁵⁷. Kohli, *We Dared*, 76.

⁵⁸. Hiranandani, *Transition to Triumph*, 209.

⁵⁹. Roy, *War in the Indian Ocean*, 234.

forces, the pursuit for PNS/M HANGOR continued for four days without result.⁶⁰ Operation FALCON raised questions on the real IN ASW capability; this continues to be a debating point in the Indian circles.⁶¹

According to the crew of PNS/M HANGOR, 156 depth charges were actually counted but none was close enough to pose any serious risk to the submarine⁶². IN got reasonable chances to prosecute PNS/M HANGOR. Firstly it got a certain position (CERTSUB) of submarine after attack on INS KHUKRI. On the second day of attack, PNS/M HANGOR passed signal of attack on INS KHUKRI⁶³. While shaking off the Indian forces she had to snorkel a number of times per day to charge her batteries. This gave a number of opportunities to IN ASW forces to locate PNS/M HANGOR for almost 4 days till 13 December 1971. PNS/M HANGOR in the meantime managed to shake off IN ASW elements and entered Karachi harbour on 18 December 1971.⁶⁴

Sinking of INS KHUKRI disrupted subsequent offensive plans of IN. Operation TRIUMPH the follow up plan to attack Karachi was called off by WNC. Loss of a frigate with 18 officers and 176 sailors had put the IN more on the defensive. Notwithstanding the daring action of PNS/M HANGOR, loss of INS KHUKRI can be attributed to some bad decisions and overlooking basic doctrine and concepts by IN surface ASW forces.

Sinking of INS KHUKRI bore another important landmark in the naval history. It was the first event of a warship sinking by a submarine after the 2nd World War.⁶⁵ PNS/M HANGOR is now parked for life at Pakistan Navy Maritime Museum in the heart of Karachi. Commanding Officer of PNS/M HANGOR was deservedly decorated

⁶⁰. Hiranandani, *Transition to Triumph*, 211.

⁶¹. Roy, *War in the Indian Ocean*, 235.

⁶². M Hangor, Interview with Weapons Officer PNS/M HANGOR, 2020.

⁶³. Ibid.

⁶⁴. Ballantyne, *The Deadly Trade*, 546.

⁶⁵ Ibid.

with Sitara-e Jurrat & Bar, whereas 3 other officers were also awarded Siatara-e Jurrat. 6 Tamgha-e-Jurrat and 14 Imtiaz Sanads were also conferred on the crew.⁶⁶ To commemorate the 1971 action by PNS/M HANGOR, 9 December is celebrated as “HANGOR Day” by Pakistan Navy every year. Senior serving submarine officers and Hangor’s crew of 1971 war are invited to participate in the event.⁶⁷

10. PNS/M MANGRO & PNS/M SHUHSHUK

PNS/M MANGRO sailed on 17 November 1971 for a three weeks war patrol. She was the first Daphne submarine to deploy off the western coast of India. Almost three days after deployment in patrol area she developed a major leak in her hull. The submarine had to surface in enemy waters; it was night time. The crew immediately plugged the leak, as staying on surface was fraught with danger. Under normal circumstances the submarine would have immediately returned harbour and cleared the defect. The crew of PNS/M MANGRO decided to continue their mission.

Daphne submarine had only one air conditioner. After the defect of hull, the air conditioner of the submarine packed up. This was a recurring deficiency in all Daphne’s therefore the crew was well trained and carried all possible back up spares. The defect of the air conditioner this time was a weird one. Again, the crew came up with an improvised solution to repair this defect.⁶⁸

After initiation of hostilities, PNS/M MANGRO detected a ship on her sonar. The ship was classified as Indian warship doing course 165 speed 10 knots. The submarine started to the chase of contact which was on the fringes of maximum torpedo range. PNS/M MANGRO

⁶⁶. Pakistan Navy Submarine Force, 25th anniversary edition, 1989, page 45.

⁶⁷. Aamir Iqbal, “Remembering Act of Valour by PNS/M Hangor in 1971 War,” *The Nation*, December 9, 2019, <https://nation.com.pk/09-Dec-2019/heroics-and-act-of-valour-by-pns-m-hangor-in-1971-war>.

⁶⁸. The air conditioner is indispensable equipment on board submarines. As soon as the air conditioner packs up the humidity level in the submarine goes very high which has an adverse effect on the crew and other sensitive equipment. In the newer submarines two air conditioning units are installed for redundancy.

chased the target at maximum possible speed with regular snorkelling intervals. The Captain confirmed the course, speed and range of Indian Ship by two single ping transmissions through periscope. After confirming the ranges, one E 15 homing torpedo was launched. Just after launching, as per the doctrine the submarine went into evasion mode and changed depth to 100 meters. Incidentally, the torpedo incidentally did not run which was confirmed by sonar.⁶⁹

Due to onset of war, the deployment of PNS/M MANGRO was extended to four weeks from initial three weeks. On completion of her extended patrol PNS/M MANGRO entered Karachi at about 1200 on 14 December 1971. Soon after its arrival PNS/M MANGRO was docked in Graving Dock at about 1500 the same day. The submarine remained in dock for next 2 days. In the meantime, on 15 December 1971 an Indian Gnat aircraft chased by two PAF sabre aircraft jettisoned its payload in the PIDC channel. No damage was done to any installation in this dog fight. Popular myth that attack on Miandad jetty (MD jetty) was carried out when a submarine was in dock proved to be a farce. Attack on MD jetty was actually carried out on 9 December 1971.

Before the start of the war PNS/M SHUSHUK was under maintenance and was awaiting the main shaft of seawater pump of Port engine. In view of the impending war she was boxed up and sailed on 22 November 1971. She encountered a number of aircraft rockets on her ESM (Electronic Support Measure) equipment but she did not encounter any Indian ship.⁷⁰

11. Role of Indian Submarines

a. The Eastern Theatre: Indian Navy entered the war with three submarines. One submarine INS/M KALVARI was shifted to the eastern theatre. This was done to possibly balance the newly

⁶⁹. MANGRO, *Interview with CO MANGRO*, 2020.

⁷⁰. M SHUSHUK, *Interview with CO PNS/M SHUSHUK in 1971 war*, August 2020.

established Eastern Naval Command. This platform did not play any role in the conflict. In the hindsight it can be said that it was deployed to threaten intervening extra regional forces, if at all.⁷¹

b. The Western Theatre: In the western theatre, INS/M KURSURA sailed on 13 November 1971 to arrive in its standby area by 18 November 1971. It then shifted her areas a couple of times before commencing the returning journey. On 2 December 1971 it affected rendezvous with INS/M KARANJ. Subsequently it entered harbour with no consequence on the naval war.⁷² The second submarine INS/M KARANJ remained deployed in general area south of ORMARA off the Pakistani coast. Apart from reporting intense air activity and coming across few merchant ships it did not engage any target throughout the war.⁷³

The question arises that when PN submarines generated effects both in the eastern and western theatres then why did the IN submarines did not play similar role in war. Incidentally IN submarines were directed to engage positively identified ships only.⁷⁴ This puts a great limitation on the submarine crew to positively identify targets before engagement. By day under extremely good visibility the submarine may be able to identify the target. By night it is almost impossible. Even by day, if the target disguises itself, paint a fake name, change the flag etc then the submarine crew is seriously limited. Some Pakistani merchant ships including MV ANWAR BUKSH and MV MADHUMATI disguised themselves, but they were apprehended by Indian surface forces only after boarding and seriously challenging them.⁷⁵ The words of Admiral Kohli quoted in IN history "Transition to Triumph" explain this anomaly, "The stipulation of positive identification prior attacking any enemy ship deprived our submarines of any real

⁷¹. Roy, *War in the Indian Ocean*, 219.

⁷² Kohli, *We Dared*, 82.

⁷³. *Ibid*, 83.

⁷⁴. Ballantyne, *The Deadly Trade*, 546.

⁷⁵. Kohli, *We Dared*, 66.

action. The correct line of action would have been to have declared War Zones and sink any ship transiting through these, after a suitable warning period".⁷⁶

PN planners gave liberty to its submarines for engaging targets as per priority list. The Commanding Officers of PN submarines were encouraged to take initiative as per the tactical situation. CO PNS/M HANGOR realising that IN ships were avoiding his area of deployment took initiative in the middle of the war. She shifted to a more northward area after asking permission which was granted by Commander Submarines. It enabled PNS/M HANGOR to destroy INS KHUKRI and create a strategic impact on the outcome of war.⁷⁷

12. Conclusion

Both Indian and Pakistan Navy started the quest for submarines in the same time frame. Pakistan Navy managed to get PNS/M GHAZI on lease from USA in 1964. The deployment of PNS/M GHAZI played an important role in 1965 war when the Indian Fleet was restricted to south of PORBANDAR. In the 1971 war, PN submarines created strategic and tactical effects in the eastern and western theatres. Due to threat from PNS/M GHAZI, Indian Navy carrier did not operate with impunity until PNS/M GHAZI's destruction. In the western theatre, at the onset, IN Missile Boats had carried out two attacks on PN ships and Karachi harbour on 4th and 8th December 1971. On 9 December 1971, PNS/M HANGOR sank INS KHUKRI, 25 miles south west off DIU HEAD. This halted further planned offensives by IN as all ASW elements of Indian WNC hunted PNS/HANGOR in vain for over 4 days until 13 December 1971. In brief it can be concluded that in future Indo-Pak conflicts, submarines on both sides will play decisive roles not only in the conventional domain but also in the strategic realm.

⁷⁶. Hiranandani, *Transition to Triumph*, 212.

⁷⁷. HANGOR, Interview with CO PNS/HANGOR, 2020.

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Effects of Asymmetric Information on Decision Dilemma in Formulating Maritime Financial Strategy and Sensitive Capital Investments

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Abstract

Cash flow has been major determinant of investment in the most of the studies conducted in the area of finance. So have the studies related to financing of ships related investment projects within the maritime industry. However, the exact role of cash flow to determine the investment specially in the maritime sector remained ambiguous. This research has been conducted mainly to investigate the relationship between investment and internal generated fund while the information is asymmetric in the maritime and financial realms of Pakistan. The Q model of investment has been used to investigate this relationship. The GMM model has been applied to test the hypothesis by using the balanced panel annual data of Pakistani listed non-financial KSE 100 index firms for the period 2009 to 2018. The empirical analysis includes 100 sample firms with 600 observations. The five measures of asymmetric information (i.e. Tobin's Q, ownership concentration, firm size, profitability and the financial leverage) have been used in this study. The results derived by using all five measures of asymmetric information confirm the

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positive and statistically significant relationship between internal finance and firm's investment when firms have information which is asymmetric in nature. This study contributes to the investment decisions in maritime markets as well as other capital markets that are imperfect, consisting of information asymmetries.

Keywords: Maritime Investment, Internal Finance, Ship Financing, Asymmetric Information, Tobin's Q, Financial Leverage

Introduction

The researchers in economics and finance have shown classy interest to understand the factors affecting corporate investment. Corporate investment has an important role in the business activities of any organization. The investment helps to boost up economic and financial activities for the improvement in economic growth rate and employment that ultimately increases the wage rate, the labor productivity and the living standards to all. Same holds true for the maritime sector as well as other business sectors¹. Access to appropriate and comprehensive funding plays a pivotal role in the financing mechanism of investments within the shipping sector². The shipping market is a highly volatile and fluctuating market, sensitive to information (specially Asymetric in nature) that have a substantial effect on the decision outcomes of financing (Martin. M, 2017)³.

¹ Michelle Baddeley, *Investment: Theories and Analyses*, Google Books (207-216: Macmillan International Higher Education, 2003).

² George Alexandridis et al., "A Survey of Shipping Finance Research: Setting the Future Research Agenda," *Transportation Research Part E: Logistics and Transportation Review* 115 (July 2018): 164–212, <https://doi.org/10.1016/j.tre.2018.04.001>.

³ Marina Maniati and Evangelos Sambracos, "Decision-Making Process in Shipping Finance: A Stochastic Approach," ed. David McMillan, *Cogent Economics & Finance* 5, no. 1 (April 17, 2017), <https://doi.org/10.1080/23322039.2017.1317083>.

The theorem given by Modigliani & Miller (1958)⁴ has given birth to a discussion about the perfect substitutability of internal cash flows with external funds. This theorem assumes perfect capital market without frictions, like agency cost, asymmetric information. This theorem has contributed considerably in the development of a number of models to study the effects of availability of internal and external funds and cost associated with them on the investment behavior in the presence of imperfect capital market containing frictions such as agency cost problem and asymmetric information. But many of the studies have found that internal funds are not a complete substitute with external funds. Moreover the availability of internal funds and cost attached to external funds are the major determinants of investment expenditures of any firm. In reality, the assumptions of perfect and frictionless capital market in Modigliani and Miller's theorem are not possible to hold. Agca & Mozumdar (2005)⁵ and Sahilalvi (2010)⁶ have criticized the assumptions of perfect capital market and have given strong arguments for non-existence of capital market that is perfect.

There has been intensive debate among the finance researchers about the internal finance as determinant of constraints faced by firms, including those in the maritime industry, while they are deciding about their investment spending. The purpose of this discussion has been to find out the nature i.e. statistical significance of relationship between the availability of internal cash flows and

⁴ Franco Modigliani and Merton H. Miller, "The Cost of Capital, Corporation Finance and the Theory of Investment," *The American Economic Review* 48, no. 3 (1958): 261–97, https://www.jstor.org/stable/1809766?seq=1#metadata_info_tab_contents.

⁵ Senay Agca and Abon Mozumdar, "The Impact of Capital Market Imperfections on Investment-Cash Flow Sensitivity," *Journal of Banking & Finance* 32, no. 2 (2008): 207–16, https://econpapers.repec.org/article/eejbfina/v_3a32_3ay_3a2008_3ai_3a2_3ap_3a207-216.htm.

⁶ Sahil Alvi, "Efficient Markets Do Not Exist: A Primer on Perpetual Market Disequilibrium Hypothesis | Seeking Alpha," seekingalpha.com, August 7, 2010, <https://seekingalpha.com/instablog/668504-sahil-alvi/86211-efficient-markets-do-not-exist-a-primer-on-perpetual-market-disequilibrium-hypothesis>.

firm's investing decisions along with need to know the direction i.e. either positive or negative of relationship between the two.

The various researchers have studied the nature as well as direction of correlation between investment outlays and internally generated cash flow (Devereux & Schiantarelli, 1990 and Schaller, 1993)⁷. The results of these studies indicate a strong positive relationship between investment spending and internally generated cash flow. For example, Kaplan and Zinglas (2002)⁸ and Fazzari, Hubbard, & Petersen (1988)⁹ concluded that investment is more sensitive to internal finance in highly constrained firms. Wan & Zhu (2011)¹⁰ identified that investment expenditures incurred are of U-Shaped function of internal finance. Similarly, Shin & Park (1999)¹¹ observed positive relationship between internal finance and investment by investigating the Korean firms investing behaviour. Love (2001)¹² also derived the results that are similar the above discussed results by employing the Euler equation to measure investment opportunity. Additionally, Empirical research has concluded that the cost of information plays a significant and important role in investment decisions. For example, Almeida &

⁷ Michael Devereux and Fabio Schiantarelli, "Investment, Financial Factors, and Cash Flow: Evidence from U.K. Panel Data," *ideas.repec.org* (National Bureau of Economic Research, Inc, 1990), <https://ideas.repec.org/h/nbr/nberch/11476.html>.

⁸ Steven N. Kaplan and Luigi Zingales, "Do Investment-Cash Flow Sensitivities Provide Useful Measures of Financing Constraints?," *The Quarterly Journal of Economics* 112, no. 1 (1997): 169–215, https://www.jstor.org/stable/2951280?seq=1#metadata_info_tab_contents.

⁹ Steven M. Fazzari et al., "Financing Constraints and Corporate Investment," *Brookings Papers on Economic Activity* 1988, no. 1 (1988): 141, <https://doi.org/10.2307/2534426>.

¹⁰ Hualin Wan and Kai Zhu, "Is Investment–Cashflow Sensitivity a Good Measure of Financial Constraints?," *China Journal of Accounting Research* 4, no. 4 (December 2011): 253–70, <https://doi.org/10.1016/j.cjar.2011.07.002>.

¹¹ Hyun-Han Shin and Young S. Park, "Financing Constraints and Internal Capital Markets: Evidence from Korean 'Chaebols,'" *Journal of Corporate Finance* 5, no.2 (1999): 169–91, https://econpapers.repec.org/article/eeecorfin/v_3a5_3ay_3a1999_3ai_3a2_3ap_3a169-191.htm.

¹² Inessa Love, "Financial Development and Financing Constraints: International Evidence from the Structural Investment Model," *The Review of Financial Studies* 16, no. 3 (2003): 765–91, https://www.jstor.org/stable/1262715?seq=1#metadata_info_tab_contents.

Campello (2010)¹³ established that information asymmetries are more relevant to constrained firms as compare to unconstrained firms. According to Wang et al. (2008) the financially constraint firms show high investment-cash flow sensitivity in the presence of asymmetric information.

The plenteously research have been conducted in different countries other than Pakistan in this area of finance. But the research on how asymmetric information affects sensitivity between internal finance and investment is scant. This is only detailed study in the context of Pakistan to see the relationship between investment and internal finance under asymmetric information. The firms relating to manufacturing industry are the part of this study. This study answers the question: *“Whether investment-cash flow sensitivity is higher for the firms that have asymmetric information than those of firms that have symmetric information”?*

Considering the gap in the empirical literature particularly scarcity of research related to developing countries, the objectives of this study includes:

- a) To investigate association between investments spending and internally generated cash flow by using Tobin’s Q as proxy for internal finance.
- b) To investigate association between investment expenditures and internally generated cash flow by using Firm Size as proxy for internal finance.
- c) To investigate association between investment expenditures and internally generated cash flow by using Ownership Concentration as proxy for internal finance.

¹³ Heitor Almeida, Murillo Campello, and Michael S. Weisbach, “The Cash Flow Sensitivity of Cash,” *The Journal of Finance* 59, no. 4 (August 2004): 1777–1804, <https://doi.org/10.1111/j.1540-6261.2004.00679.x>.

- d) To investigate association between investment expenditures and internally generated cash flow by using Leverage Ratio as proxy for internal finance.
- e) To investigate association between investment expenditures and internally generated cash flow by using Firm's Profitability as proxy for internal finance.

The rest of paper is organized as follows. Section 2 shed light on the literature review, section 3 discuss hypothesis development. Section 4 describes data and methodology, section 5 consists of results and discussion and section 6 is about the conclusion.

Literature Review

Martin. M (2017) has opined that analysis of internal factors associated with cash flows and hence financing decisions are a vital undertaking in order to understand the dynamics associated with the financial investment matrix of the ship financing industry. Modigliani and Miller (1958)¹⁴ investigated that the availability of funds has no impact on investment in efficient capital market. It means that there is no complete substitutability between the external funds and internal finance. Moreover firms would like to invest in the projects that have positive Net Present Value. On the other hand, some researchers have arguments in opposite to the perfect capital market (Agca & Mozamdar, 2005; Sahilalvi, 2010)¹⁵. They were of the opinion that the internal funds are not perfect substitutes to the external funds. Moreover investment spending has a positive relationship with the cash flows of a firm. Hubbard, Kashyap, &

¹⁴ Franco Modigliani and Merton H. Miller, "The Cost of Capital, Corporation Finance and the Theory of Investment," *The American Economic Review* 48, no. 3 (1958): 261–97, https://www.jstor.org/stable/1809766?seq=1#metadata_info_tab_contents.

¹⁵ Senay Agca and Abon Mozumdar, "The Impact of Capital Market Imperfections on Investment-Cash Flow Sensitivity," *Journal of Banking & Finance* 32, no. 2 (2008): 207–16, https://econpapers.repec.org/article/eeebfina/v_3a32_3ay_3a2008_3ai_3a2_3ap_3a207-216.htm.

Whited, (1995)¹⁶ investigated that the neoclassical models of the investment are unable to explain the investing patterns of firms.

Modern investment models have assumptions of a capital market that is not perfect and containing asymmetric information, bearing agency cost creating adverse selection problems. Contemporary researchers are of the view that various financial factors including internal funds availability, leverage, credit market functioning etc. are the major determinants of the firm's investment. Fazzari, Hubbard, & Petersen (1988)¹⁷ pointed out the interdependence between firm's investment decision and its capital structure. Myers & Majluf (1984)¹⁸ explained that the insiders i.e., firm's management and current informed shareholders have more information than that of outsiders i.e., prospect investors. This information asymmetry contributes in the rise of cost of external finance than that of internal finance. They also explained that the insiders have greater information that is also reliable regarding the investment opportunities and the value of the firm in comparison with the outsiders. The managers issue new stock to the investors for the raising of funds for current shareholders.

On the other hands, the investors think stock as overvalued. This situation creates adverse selection problem between inside managers and outside prospect investors. In the presence of this adverse selection problem, the investors call premium on the issue of equity stock. This would result in the external finance to be costly as compare to internal finance. It means as the uncertainty about

¹⁶ Robert Hubbard, Anil Kashyap, and Toni Whited, "International Finance and Firm Investment," *Journal of Money, Credit and Banking* 27, no. 3 (1995): 683–701, https://econpapers.repec.org/article/mcbjmoncb/v_3a27_3ay_3a1995_3ai_3a3_3ap_3a683-701.htm.

¹⁷ Steven M. Fazzari et al., "Financing Constraints and Corporate Investment," *Brookings Papers on Economic Activity* 1988, no. 1 (1988): 141, <https://doi.org/10.2307/2534426>.

¹⁸ Stewart C. Myers and Nicholas S. Majluf, "Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have," *Journal of Financial Economics* 13, no. 2 (June 1984): 187–221, [https://doi.org/10.1016/0304-405x\(84\)90023-0](https://doi.org/10.1016/0304-405x(84)90023-0).

the future return of the firm exists, the cost attached with external finance would be higher. Hu & Schiantarelli, (1998)¹⁹ also have investigated with evidence that presence of asymmetric information generates agency cost that would result in the demand for premium on the issue of new stock. The increasing cost of external finance indicates that the external borrowing is not complete substitute to the internal cash flows.

The above discussion indicates that cash flows play crucial role in the investing decisions of the firms when there is asymmetry of information. So we can say the firm's investment decisions significantly depend upon the internal cash flows of the firms under the asymmetric information. To the best of my knowledge, the study investigating the relationship between the firms' investing behavior and firm's internal cash flows still have not been conducted in the context of Pakistan. The study has been conducted to investigate this relationship and its direction i.e. positive or negative in the scenario of Pakistan. This study will use firm size, Tobin's *Q*, ownership concentration, leverage and firms' profitability as a measure of asymmetric information while investigating the relations between investment and cash flow of manufacturing firms listed on Karachi Stock Exchange.

Hypothesis Development

This study tests the sensitivity of internal finance, investment opportunities and investment in tangible fixed assets with the existence of asymmetric information. Above cited studies in the literature review broadly explains that the firm's investment is a function of firm's availability of own funds (internal finance) and the risk of changes in it and proved it by providing empirical evidences.

¹⁹ Xiaoqiang Hu and Fabio Schiantarelli, "Investment and Capital Market Imperfections: A Switching Regression Approach Using U.S. Firm Panel Data," *The Review of Economics and Statistics* 80, no. 3 (1998): 466–79, https://econpapers.repec.org/article/tprestat/v_3a80_3ay_3a1998_3ai_3a3_3ap_3a466-479.htm.

Degryse & Dejong (2005)²⁰ concluded that high Q firms face asymmetric information and low Q firms have to face the problem of managerial discretion. The asymmetric information results in underinvestment in high Q firms and there is high level of sensitivity of cash flow with investment in these firms. This helps us to develop the following first hypothesis:

H₁: High investment opportunity firms have more Sensitivity of investment with internal finance than firms having low investment opportunities.

Firm size has been used to measure asymmetric information by various researchers. Large size firms can easily raise the external finance from financial institutions due to lower level of information asymmetry, lower and diversified risk (Chen & Chen, 2013)²¹. In this regard our second hypothesis is developed as under

H₂: Small size firms have more Sensitivity of investment with internal finance than firms with large size.

Nekounam, Nasir, Abdi & goodarzi, (2012) have identified positive relationship between symmetric information and the level of ownership concentration. The great stockholders have access to private & hidden information of companies having concentrated ownership level. Hence, the hypothesis tested is whether sensitivity of cash flow is low for the firms controlled by the large outside shareholders (industrial or commercial company, or an individual or family not related to a director).

²⁰ Hans Degryse and Abe de Jong, "Investment and Internal Finance: Asymmetric Information or Managerial Discretion?," *International Journal of Industrial Organization* 24, no. 1 (2006): 125–47, https://econpapers.repec.org/article/eeeindorg/v_3a24_3ay_3a2006_3ai_3a1_3ap_3a125-147.htm.

²¹ Huafeng (Jason) Chen and Shaojun (Jenny) Chen, "Investment-Cash Flow Sensitivity Cannot Be a Good Measure of Financial Constraints: Evidence from the Time Series," *Journal of Financial Economics* 103, no. 2 (February 2012): 393–410, <https://doi.org/10.1016/j.jfineco.2011.08.009>.

H₃: Less ownership concentration firms have more Sensitivity of investment with internal finance than firms having high ownership concentration.

Leverage is also an influencing and dominant factor in the firm investment expenditure. It provides basis of internal finance and the investment of the firms. Leverage increases the uncertainty of firm's performance and information asymmetry. Previous studies indicate that highly leveraged firms in some Asian countries must pay greater premiums on external financing. This reduces funds for investment, which in turn reduces the ability of firms to secure external financing. This indicates the existence of financial constraint within these firms. Leverage is measured by the debt-to-equity ratio at the end of the financial year.

H₄: High leverage firms have more Sensitivity of investment with internal finance than firms having low leverage.

Mayers and Majluf (1984)²² identified that debt and profitability have a negative relationship. Other studies have also identified negative relationship between profitability and debt. Another study has identified that profitable firms are able to generate more internal finance and profitability lowers firm's leverage.

Moreover the profitability lessens the financing constraints of a firm. That results in negative relationship between internal cash flow sensitivity and the profitability. Further Espallier and Vandemael (2008) have found a negative relationship between internal finance sensitivity to investment and profitability by using interest coverage ratio as measure of profitability. This study also uses interest coverage ratio as a measure of profitability.

H₅: Less profitable firms have more Sensitivity of investment with internal finance than firms having low profitability.

²² Stewart C. Myers and Nicholas S. Majluf, "Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have," *Journal of Financial Economics* 13, no. 2 (June 1984): 187–221, [https://doi.org/10.1016/0304-405x\(84\)90023-0](https://doi.org/10.1016/0304-405x(84)90023-0).

Data and Methodology

This section provides information about the sample data, data sources, population frame, sample size, and sample selection criteria.

a. Data and its sources: The sample included only the non-financial firms listed at Pakistan Stock Exchange (PSX) on its balance sheet date throughout the sample period. Further, the sample firm's investment should be in its real assets only. This study used accounting data from the sample companies' published annual audited financial reports from year 2009 to 2018. The data comprising of sample firms' daily market prices for the same period required to compute their market capitalizations was taken from the Pakistan Stock Exchange (PSX) Ready Board.

b. Estimation Techniques: This study has used Im, Pesaran and Shin (IPS) test to check the stationarity of the data and to examine whether a time series has a unit root. The empirical analysis is conducted as follows:

First, Im, Pesaran, Shin" (IPS) test has been applied in this study to check unit root in the data. There are various unit root test are available to check the stationarity in the data. This study has used Im et al. (2003)²³ test to check the stationarity. This test is considered more appropriate to check the unit root in panel data.

Second, the estimation technique used in this model is Generalized Method of Moments (GMM) (Arellano & Bond,

²³ Kyung So Im, M.Hashem Pesaran, and Yongcheol Shin, "Testing for Unit Roots in Heterogeneous Panels," *Journal of Econometrics* 115, no. 1 (July 2003): 53–74, [https://doi.org/10.1016/s0304-4076\(03\)00092-7](https://doi.org/10.1016/s0304-4076(03)00092-7).

1991)²⁴. This is the latest technique to estimate the long run co-efficient of panel data. It takes into account unobserved heteroscedasticity and endogeneity problems in the data. The instrument set includes $\frac{I_{it}}{K_{it-1}}$, $\frac{INIF_{it}}{K_{it-1}}$, Q_{it} , $\frac{Sales}{K_{it-1}}$, $\frac{\Delta WC}{K_{it-1}}$, all lagged two and three times.

c. GMM Post Estimation: In this study two GMM post estimation techniques Guariglia, A. (2002)²⁵ has been applied.

i) Sargan and Hansen test (J statistic) of over-identifying restrictions (Sargan, 1958; Hansen, 1982): This test had been developed by Sargan (1958) and Hansen (1982) to test the over-identifying restrictions in the panel data. The insignificant results of the J test support the null hypothesis and reject the alternative hypothesis. It means that over-identifying restrictions are valid in the panel data. On the other hand if alternative hypothesis is accepted, it is an indication that the model is miss-specified.

ii) Arellano-Bond test for zero autocorrelation in first-differenced errors (Arellano M. & S. Bond, 1992): This test had been developed by Arellano-Bond (1992) to test the second order serial (m_2) correlation in the panel data. The m_2 statistic is used to check the lack of second order serial correlation in the first difference residuals. The insignificant results of the J test support the null hypothesis and reject the alternative hypothesis. This is an indication of no serial-correlation in the panel data.

Empirical Results and Interpretation

This section presents statistical results of the financial variables. Descriptive statistics are given at first. Pearson correlation test is

²⁴ Manuel Arellano and Stephen Bond, "Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations," *The Review of Economic Studies* 58, no. 2 (1991): 277–97, <https://doi.org/10.2307/2297968>.

²⁵ Alessandra Guariglia, "Internal Financial Constraints, External Financial Constraints, and Investment Choice: Evidence from a Panel of UK Firms," *Journal of Banking & Finance* 32, no. 9 (2008): 1795–1809, https://econpapers.repec.org/article/eeefbfina/v_3a32_3ay_3a2008_3ai_3a9_3ap_3a1795-1809.htm.

used to check the correlation among the investment and financial variables. Unit root test is applied to check the stationarity of variables. Regression results of GMM model are in the end of the chapter with the discussion on the results.

a. Descriptive Statistics: The descriptive results have been presented in a tabular form to show the descriptive characteristics of data. Mean, standard deviation, median, skewness, kurtosis etc. are included in the descriptive statistics. The results of descriptive statistics are shown as follows.

Table 1- Descriptive Statistics

Variable	Unit	Obser.	Min.	Max.	Mean	Median	S.D	Skewness	Kurtosis
INV	Thous. Rs.	1500	-0.999	17.567	0.192	0.035	1.152	9.725	117.255
CWC	Thous. Rs.	1500	- 10.178	8.602	0.007	0.024	0.751	-2.245	98.225
Sales	Thous. Rs.	1500	9.527	64.021	2.598	1.234	6.188	6.139	46.124
Tobin's Q	%	1500	0.128	41.395	1.335	0.883	2.837	10.611	128.039
INF	Thous. Rs.	1500	- 19.525	9.708	0.142	0.074	1.048	-9.275	223.173

Investment has minimum -0.999, maximum 17.567, mean 0.192, median 1.152 and standard deviation 1.152. Change in Working Capital (CWC) has minimum -10.178, maximum 8.602, mean 0.007, median 0.024 and standard deviation 0.751. Sales have minimum 9.257, maximum 64.021, mean 2.598, median 1.234 and standard deviation 6.188. Tobin'sQ has minimum 0.128, maximum 41.395, mean 1.335, median 0.883 and standard deviation 2.837. Internal Finance (INF) has minimum -19.525, maximum 9.708, mean 0.142, median 0.074 and standard deviation 1.048.

b. Unit Root Test: In unit root methodology we have applied the Im, Pesaran and Shin (IPS) test to check the stationarity of the data. Unit root test results are reported in table 1. According to unit root test results, except sales all four variables are stationary

at level while sales is stationary at first difference. Thus results confirm that these variables are integrated at level and first difference.

Table 2 - Im, Pesaran and Shin Test Results for Unit Root

Variables	Intercept	Intercept & Trend	Results
INV	-6.20940	-7.41485	I(0)
CWC	-2.83037	-3.66375	I(0)
Sales	-2.95815	-4.30917	I(1)
Tobin's Q	-3.46142	-7.79828	I(0)
INF	-3.22911	-3.85717	I(0)

, **, * indicate the ratio is significant at 1%, 5%, & at 10% respectively*

c. Correlation Matrix: Pearson correlation test is used to check the correlation among investment and financial variables. The correlation matrix shows that internal finance is negatively correlated with change in working capital, and Tobin's Q while positively correlated with sales. Whereas Change in working capital is positively correlated with sales and Tobin's Q while negatively correlated with internal finance. Moreover, sales are positively correlated with Tobin's Q, internal finance and change in working capital. Tobin's Q is negatively correlated with internal finance while is positively correlated with change in working capital and sales.

Table 3 - Pearson Correlation Matrix

Covariance Analysis: Ordinary					
Sample: 2008 to 2013					
Included observations: 600					
Covariance Analysis: Ordinary					
	INF	CWC	Sales	Tobin's Q	IF
INF	1	-	-	-	-
CWC	-0.1387	1	-	-	-
Sales	0.1467	0.1059	1	-	-
Tobin's Q	-0.0181	0.0490	0.0145	1	-
IF	1.29	1.29	1.02	1.00	1

d. Regression Results: The regression results are appended below:

i) The sensitivity of investment & internal finance when Tobin's Q is used as a measure of asymmetric information: This study has used median value of firm's Tobin's Q to divide firms between two groups. The firms having Tobin's Q ratio above median are larger Tobin's Q firms and smaller Tobin's Q firms are those having Tobin's Q below median. The firms with larger Tobin's Q have asymmetric information but firms with smaller Tobin's Q do not. This study has used interaction terms of internal finance and Tobin's Q dummy to find relationship between internal finance and investment. The high Tobin's Q is assigned one in case Tobin's Q has a value above than median and zero otherwise. The low Tobin's Q is assigned one in case Tobin's Q has a value below than median and zero otherwise. The GMM regression results are given below in table 4 and 5.

Table 4 - Method - Generalized Method of Moments (GMM)

Impact of High Tobin's Q on Investment			
Variable	Coefficient	Std. Error	Z-Statistic
CWC	0.069	0.028	2.42**
Sales	0.060	0.007	8.34*
Tobin's Q	0.183	0.101	1.82***
INFIN*HQ(D)	0.628	0.088	7.11*

, **, * indicate the ratio is significant at 1%, 5%, & at 10% respectively*

The coefficient of interaction terms of dummy variable of high Tobin's Q and internal finance is positive and significant statistically. The result indicates that there is high positive and significant relationship exist while firms are facing asymmetric information.

Table 5 - Method - Generalized Method of Moments (GMM)

Impact of Low Tobin's Q on Investment			
Variable	Coefficient	Std. Error	Z-Statistic
CWC	0.068	0.031	2.20**
Sales	0.051	0.008	6.52*
Tobin's Q	0.328	0.110	2.99*
INFIN*HQ(D)	0.313	0.160	1.95***

*, **, *** indicate the ratio is significant at 1%, 5%, & at 10% respectively

The coefficient of interaction terms of dummy variable of low Tobin's Q and internal finance is positive and insignificant statistically. The result indicates that there is low positive but significant relationship exist while firms are facing symmetric information.

This study finds the relationship between internal finance and investment by using interaction of Tobin's Q dummy with internal finance. The investment and internal finance sensitivity is more for firms having high Tobin's Q than firms having less Tobin's Q. The sensitivity coefficient for larger Tobin's Q firms is 0.628 and for small Tobin's Q is 0.313. The investment and internal finance sensitivity is more positive for firms having high Tobin's Q than low Tobin's Q firms. These results show that the firms having asymmetric information are more dependent on internal finance. This more dependency of high q firms on internal finance is due to information asymmetry (Pawlina & Renneboog, 2006)²⁶. The information asymmetry increases the cost of external finance that results in more dependency of firm's on internal finance Faulkender & Wang, 2006; Mayers & Majluf, 1984²⁷.

²⁶ Grzegorz Pawlina and Luc Renneboog, "Is Investment-Cash Flow Sensitivity Caused by Agency Costs or Asymmetric Information? Evidence from the UK," *European Financial Management* 11, no. 4 (2005): 483–513, https://econpapers.repec.org/article/blaeufman/v_3a11_3ay_3a2005_3ai_3a4_3ap_3a483-513.htm.

²⁷ Stewart C. Myers and Nicholas S. Majluf, "Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have," *Journal of Financial Economics* 13, no. 2 (June 1984): 187–221, [https://doi.org/10.1016/0304-405x\(84\)90023-0](https://doi.org/10.1016/0304-405x(84)90023-0).

ii) The sensitivity of investment & internal finance when firm size is used as a measure of asymmetric information: The median of value of firm size has been used to divide firms into large size and small size firms. The firms having value of firm size larger than the median value of size are large size firms and firms having value of firm size below than median are called firms with small size. The GMM regression results are given below in table 6 and 7.

Table 6 - Method - Generalized Method of Moments (GMM)

Impact of Large Firm Size on Investment			
Variable	Coefficient	Std. Error	Z-Statistic
CWC	0.074	0.031	2.40**
Sales	0.054	0.008	6.97*
Tobin's Q	0.270	0.108	2.50**
INFIN*HQ(D)	0.095	0.047	2.04**

, **, * indicate the ratio is significant at 1%, 5%, & at 10% respectively*

The coefficient of interaction terms of dummy variable of large size and internal finance is positive and significant statistically. The result indicates that there is low positive and significant relationship exit while firms are facing symmetric information.

Table 7 - Method - Generalized Method of Moments (GMM)

Impact of Small Firm Size on Investment			
Variable	Coefficient	Std. Error	Z-Statistic
CWC	0.055	0.029	1.90***
Sales	0.045	0.007	6.09*
Tobin's Q	0.268	0.101	2.64*
INFIN*HQ(D)	0.735	0.115	6.38*

, **, * indicate the ratio is significant at 1%, 5%, & at 10% respectively*

The coefficient of interaction terms of dummy variable of small size and internal finance is positive and significant statistically. The result indicates that there is high positive and

significant relationship exist between internal finance and investment.

This study finds the relationship between internal finance and investment by using interaction of firm size dummy with internal finance in order to understand the complex dynamics of financing associated with vessels within the maritime industry. Large size is 1 if the value of firm size is greater the than median of firms' size otherwise zero. Small size is 1 if the value of firm size is smaller than median of firms' size otherwise zero. The investment and internal finance sensitivity is more for firms having small size than firms having large size. The sensitivity coefficient for large size firms is 0.095 and for small size firms is 0.735. This more dependency of small size firms on internal finance is due to information asymmetry (Gertler & Gilchrist, 1994²⁸, Gilchrist & Himmelberg, 1995²⁹). The results obtained in this study are steady with the conclusions of the above cited studies.

iii) The sensitivity of investment & internal finance when Ownership Concentration is used as a measure of asymmetric information: This study has used median value of firm's ownership concentration to divide firms between two groups. The firms having ownership concentration ratio above median are high ownership concentration firms and smaller ownership concentration firms are those having ownership concentration below median. The firms with low ownership concentration have asymmetric information but firms with high ownership concentration do not. This study has used interaction terms of internal finance and ownership concentration dummy to find

²⁸ Mark Gertler and Simon Gilchrist, "Monetary Policy, Business Cycles, and the Behavior of Small Manufacturing Firms," *The Quarterly Journal of Economics* 109, no. 2 (1994): 309–40, https://econpapers.repec.org/article/oupqjecon/v_3a109_3ay_3a1994_3ai_3a2_3ap_3a309-340..htm.

²⁹ Simon Gilchrist and Charles P. Himmelberg, "Evidence on the Role of Cash Flow for Investment," *Journal of Monetary Economics* 36, no. 3 (1995): 541–72, https://econpapers.repec.org/article/eeemoneco/v_3a36_3ay_3a1995_3ai_3a3_3ap_3a541-572.htm.

relationship between internal finance and investment. The High ownership concentration is assigned one in case ownership concentration has a value above than median and zero otherwise. The low ownership concentration is assigned one in case ownership concentration has a value below than median and zero otherwise. The GMM regression results are given below in table 8 and 9.

Table 8 - Method - Generalized Method of Moments (GMM)

Impact of High Ownership Concentration on Investment			
Variable	Coefficient	Std. Error	Z-Statistic
CWC	0.062	0.030	2.02**
Sales	0.067	0.009	7.33*
Tobin's Q	0.297	0.107	2.77*
INFIN*HQ(D)	0.063	0.021	2.98*

, **, * indicate the ratio is significant at 1%, 5%, & at 10% respectively*

The coefficient of interaction terms of dummy variable of high ownership concentration and internal finance is less positive and significant statistically. The result indicates that there is positive and significant relationship exit while firms are facing symmetric information.

Table 9 - Method - Generalized Method of Moments (GMM)

Impact of Low Ownership Concentration on Investment			
Variable	Coefficient	Std. Error	Z-Statistic
CWC	0.063	0.031	2.02**
Sales	0.049	0.008	6.24*
Tobin's Q	0.275	0.108	2.54**
INFIN*HQ(D)	0.171	0.078	2.21**

, **, * indicate the ratio is significant at 1%, 5%, & at 10% respectively*

The coefficient of interaction terms of dummy variable of low ownership concentration and internal finance is positive and significant statistically. The results indicate that there is more positive but significant relationship exit while firms are facing asymmetric information.

This study finds the relationship between internal finance and investment by using interaction of ownership concentration dummy with internal finance. The investment and internal finance sensitivity is more for firms having low ownership concentration than firms having high ownership concentration. The sensitivity coefficient for high ownership concentration firms is 0.063 and for low ownership concentration is 0.171. These results show that the firms having asymmetric information are more dependent on internal finance (Goerg & renneboog, 2000)³⁰.

iii) The sensitivity of investment & internal finance when Leverage is used as a measure of asymmetric information: Whited (1992)³¹ described those firms with low leverage face less investment expenditures and internal finance sensitivity than those firms facing high leverage. He divided firms into facing asymmetric and symmetric information using median value of firm leverage. The firms having value of firm leverage larger than the median value are high leverage firms and firms having value of leverage below than median are called firms with low leverage. In this study the firms' leverage has been used to distinguish firms into facing asymmetric and symmetric information. This study captures the relationship between investment expenditures and internal finance using the interaction between dummy of leverage and internal finance. This discussion indicates that high leverage firms have more information asymmetry than low leverage firms. This study uses firm leverage as a measure of information asymmetry. The high leverage firm is assigned one in case firm leverage has a value above than median and zero otherwise. The low leverage firm is

³⁰ Marc; Renneboog, "Investment Policy, Internal Financing and Ownership Concentration in the UK," *Journal of Corporate Finance* 7, no. 3 (February 2, 2001): 257–84, <https://ideas.repec.org/a/eee/corfin/v7y2001i3p257-284.html>.

³¹ TONI M. WHITED, "Debt, Liquidity Constraints, and Corporate Investment: Evidence from Panel Data," *The Journal of Finance* 47, no. 4 (September 1992): 1425–60, <https://doi.org/10.1111/j.1540-6261.1992.tb04664.x>.

assigned one in case firm leverage has a value below than median and zero otherwise. The GMM regression results are given below in table 10 and 11.

Table 10 - Method - Generalized Method of Moments (GMM)

Impact of High Leverage on Investment			
Variable	Coefficient	Std. Error	Z-Statistic
CWC	0.075	0.029	2.58*
Sales	0.045	0.007	6.22*
Tobin's Q	0.196	0.104	1.89***
INFIN*HL(D)	0.603	0.096	6.26*

, **, * indicate the ratio is significant at 1%, 5%, & at 10% respectively*

The coefficient of interaction terms of dummy variable of high leverage and internal finance is positive and significant statistically. The result indicates that there is high positive and significant relationship exit while firms are facing asymmetric information.

Table 11 - Method - Generalized Method of Moments (GMM)

Impact of Low Leverage on Investment			
Variable	Coefficient	Std. Error	Z-Statistic
CWC	0.065	0.031	2.09**
Sales	0.050	0.008	6.35*
Tobin's Q	0.308	0.109	2.83*
INFIN*LL(D)	0.144	0.070	2.05**

, **, * indicate the ratio is significant at 1%, 5%, & at 10% respectively*

The coefficient of interaction terms of dummy variable of low leverage and internal finance is positive and significant statistically. The result indicates that there is less positive and significant relationship exit while firms are facing symmetric information.

This study finds the relationship between internal finance and investment by using interaction of firm leverage dummy with internal finance. The investment and internal finance sensitivity is

more for firms having high leverage than firms having low leverage. The sensitivity coefficient for high leverage firms is 0.603 and for low leverage firms are 0.144. These results show that the firms having asymmetric information are more dependent on internal finance. This more dependency of high leverage firms on internal finance is due to information asymmetry. George, Kabir & Qian (2010) explained the high leverage firms have information asymmetry more than that of low leverage firms. They also explained that firms with high leverage have to face trouble to obtain funds in external market. Therefore high leverage firms have to face more investment expenditure and internal cash flow sensitivity. The information asymmetry increases the cost of external finance that results in more dependency of firm's on internal finance. Another study have also concluded that high leverage firms have more investment and internal cash flow sensitivity (Hovakimian & Hovakimian, 2005)³². The results obtained in this study are steady with the conclusions of the above discussed studies.

v) The sensitivity of investment & internal finance when profitability is used as a measure of asymmetric information: Mayers & Majluf (1984)³³ identified that debt and profitability have a negative relationship. Other studies have also identified negative relationship between profitability and debt. More profitable firms are able to have higher retained earnings. They have low dependency of external finance. Al-Sakran (2001);

This study has used median value of firm's profitability to divide firms between two groups. The firms having profitability ratio above median are more profitable firms and less profitable firms are those having profitability ratio below median. The firms

³² Armen Hovakimian and Gayané Hovakimian, "Cash Flow Sensitivity of Investment," *European Financial Management* 15, no. 1 (January 2009): 47–65, <https://doi.org/10.1111/j.1468-036x.2007.00420.x>.

³³ Stewart C. Myers and Nicholas S. Majluf, "Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have," *Journal of Financial Economics* 13, no. 2 (June 1984): 187–221, [https://doi.org/10.1016/0304-405x\(84\)90023-0](https://doi.org/10.1016/0304-405x(84)90023-0).

with less profitability have asymmetric information but firms with high profitability do not. This study has used interaction terms of internal finance and profitability dummy to find relationship between internal finance and investment. The High profitable is assigned one in case profitability ratio has a value above than median and zero otherwise. The low profitability is assigned one in case profitability ratio has a value below than median and zero otherwise. The GMM regression results are given below in table 12 and 13.

Table 12 - Method - Generalized Method of Moments (GMM)

Impact of High Profitability on Investment			
Variable	Coefficient	Std. Error	Z-Statistic
CWC	0.071	0.031	2.31**
Sales	0.053	0.008	6.92*
Tobin's Q	0.302	0.107	2.81**
INFIN*HP(D)	0.234	0.129	1.82***

, **, * indicate the ratio is significant at 1%, 5%, & at 10% respectively*

The coefficient of interaction terms of dummy variable of high profitability and internal finance is positive and significant statistically. The result indicates that there is less positive and significant relationship exit while firms are facing symmetric information.

Table 13- Method - Generalized Method of Moments (GMM)

Impact of Low Profitability on Investment			
Variable	Coefficient	Std. Error	Z-Statistic
CWC	0.045	0.026	1.73**
Sales	0.042	0.007	6.46*
Tobin's Q	0.188	0.091	2.06**
INFIN*LP(D)	0.742	0.064	11.52*

, **, * indicate the ratio is significant at 1%, 5%, & at 10% respectively*

The coefficient of interaction terms of dummy variable of low profitability and internal finance is positive and significant

statistically. The result indicates that there is high positive and significant relationship exit while firms are facing asymmetric information.

This study finds the relationship between internal finance and investment by using interaction of profitability dummy with internal finance. The investment and internal finance sensitivity is more for firms having low profitability than firms having high profitability. The sensitivity coefficient for high profitable firms is 0.234 and for low profitable firms is 0.742. The investment and internal finance sensitivity is less positive and significant for firms having profitability that is high. But the investment and internal finance sensitivity is more positive and significant for low profitable firms. These results show that the firms having asymmetric information are more dependent on internal finance. This more dependency of low profitable firms on internal finance is due to information asymmetry (Chen and Chen 2013)³⁴.

e. GMM Post Estimation: In this study two GMM post estimation techniques has been applies.

1. Sargan J statistic to measure over-identifying restrictions
2. Arellano-Bond test to measure zero autocorrelation in the errors (first-differenced)

i) Sargan J statistic to measure over-identifying restrictions: The sargan/ Hansen J statistic test is used to measure the over-identifying restrictions in panel data. The null hypothesis shows the validity of over-identifying restrictions. The hypothesis for over-identifying restrictions is as follows.

H₀: over-identifying restrictions are valid

H₁: over-identifying restrictions are not valid

³⁴ Huafeng (Jason) Chen and Shaojun (Jenny) Chen, "Investment-Cash Flow Sensitivity Cannot Be a Good Measure of Financial Constraints: Evidence from the Time Series," *Journal of Financial Economics* 103, no. 2 (February 2012): 393–410, <https://doi.org/10.1016/j.jfineco.2011.08.009>.

The results of test for all the variables are insignificant. These results support the null hypothesis and reject the alternative hypothesis. It means that over-identifying restrictions are valid in the panel data. The results are given below in table 10:

Table 10 - Sargan J statistic to measure over-identifying restrictions

Sargan J Statistic	High Q Firms	Low Q Firms	Large Size Firms	Small Size Firms	High Ownership Concentration	Low Ownership Concentration
chi ²	12.1222	11.23564	11.77007	13.97669	11.36489	13.19405
Prob>chi ²	0.2065	0.2599	0.2266	0.1232	0.2515	0.1540

Sargan J Statistic	High Leverage Firms	Low Leverage Firms	High Profitable Firms	Low Profitable Firms
chi ²	12.1222	12.36498	3.957208	10.81526
Prob>chi ²	0.2065	0.19350	0.914200	0.28860

ii) Autocorrelation: Next, the assumption of autocorrelation has been examined by using Arellano-Bond test (1992)³⁵ developed to measure autocorrelation in the errors (first differenced) in panel data. The hypothesis for autocorrelation is as follows.

H_0 = there is no auto correlation $H_0 = 0$

H_1 = there is a auto correlation $H_1 \neq 0$

The results of test are insignificant. These results support the null hypothesis and reject the alternative hypothesis. This is an

³⁵ Manuel Arellano and Stephen Bond, "Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations," *The Review of Economic Studies* 58, no. 2 (1991): 277–97, <https://doi.org/10.2307/2297968>.

indication of no auto-correlation in the panel data. The results are given below in table 11:

Table 11 - Arellano-Bond test for zero autocorrelation in first-differenced errors

Arellano-Bond test	High Q Firms	Low Q Firms	Large Size Firms	Small Size Firms	High Ownership Concentration	Low Ownership Concentration
Z	-	-	-	-	-1.4677	-1.2293
prob> Z	0.2004	0.1586	0.1266	0.2941	0.1422	0.2190

Arellano-Bond test	High Leverage Firms	Low Leverage Firms	High Profitable Firms	Low Profitable Firms
Z	-	-	-	-
	0.17106	-1.4262	-0.67389	0.61983
prob> Z	0.8642	0.1538	0.5004	0.5354

Both tests suggest that instruments are valid and there is no gross mis-specification in the model.

Discussion

In this study, the relationship between investment and internal finance has been reinvestigated, with a view to analyze the financial perspective within the ship investment industry. To investigate this relationship five hypotheses have been developed and these hypotheses have been supported from the contemporary and neoclassical literature related to corporate investment. These hypotheses have been tested by choosing 100 manufacturing companies listed at Karachi Stock Exchange. To test the hypotheses, the initial data tests have been applied and finally the GMM model has been selected for data to be analyzed in this study.

The results indicates that sensitivity of investment expenditure to cash flows is more positive in high Tobin's q firms than in low Tobin's q firms. These results show that the firms having asymmetric

information are more dependent on internal finance. This more dependency of high q firms on internal finance is due to information asymmetry.

The second hypothesis is that sensitivity of investment expenditure to cash flows is more positive in small size firms than in larger size firms. This more dependency of small size firms on internal finance is due to information asymmetry.

This study also supports third hypothesis and confirms that investment and internal finance sensitivity is more for firms having low ownership concentration than firms having high ownership concentration.

The fourth hypothesis is that sensitivity of investment expenditures to cash flows is more positive in high leveraged firms than in low leveraged firms. The results show that the firms with high are more dependent on internal finance. This more dependency of high leverage firms on internal finance is due to information asymmetric.

The fifth and last one hypothesis is that sensitivity of investment expenditures to cash flows is more positive in less profitable firms than in high profitable firms. The results show that the low profitable firms are more dependent on internal finance. This more dependency of low profitable firms on internal finance is due to information asymmetry.

Implications for the Maritime Sector

This study has important implications for various stakeholders, especially for the maritime industry. This study stresses on the importance of necessary actions to alleviate the information asymmetry from the capital markets to boost up their working efficiency in order to mitigate risks associated with ship financing. This will allow the decision makers to be able to make calculated

decisions based on reduced asymmetry and hence the overall profitability of the shipping firm, and industry, is likely to improve.

This study is also helpful to the firms making financing decisions in the presence of information asymmetries. This study will help the investors to make rational investment decisions in imperfect capital markets containing information asymmetries, a useful insight for the investors in the maritime domain. Understanding the nature of volatility of the market will allow future investors to regard the importance of asymmetry in the information, which intern affects the decisions associated with the internal investments.

Limitations

The study is limited as it includes only non-financial sector, whereas further research may be conducted on financial sector. This study has used Tobin's Q to study the relationship between investment and internal finance. An alternative equation (i.e. Euler Equation) to Tobin's Q may be used to investigate these relationships. Future studies may include large sample size for other developing countries.

Conclusion

The study tries to highlight the effects of asymmetric Information on the Decision making processes, specially within Maritime firms, while formulating Financial Strategy and decisions on sensitive capital investments. The study proves the importance of the influence the asymmetric information has on decision making and its effects on the internal financial decisions. The maritime industry must remain privy to these decisional dilemmas and must take necessary steps to eradicate the asymmetry in information, as decision making is heavily influenced on the information, specially in capital intensive industry such as the Maritime Shipping industry. The study helps in highlighting the importance of information and hence urges the firms to improve their decision and information gathering wherewithal in order to arrive at informed decisions with accuracy in order to improve efficiency and proficiency.

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ASIA-PACIFIC STRATEGIC DIALOGUE – WEBINAR SERIES

by

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The Indo-Pacific represents a historic crossroad for interchanging ideas, trade, culture, and people. Indo-Pacific has emerged in the contemporary world's economy and politics, first as Asia-Pacific and, then through the revival of the Indian Ocean rimland states. This has shifted the world's attention from the trans-Atlantic to the Indo-Pacific. Strategies by major powers have built new mechanisms for cooperation and competition. Thus, the Indo-Pacific has raised risks of further division and even confrontation along political, military, ideological, and economic lines.

Two non-profits, Asia Pacific Exchange & Cooperation Foundation¹ and Zhenghe Forum² joined hands and scheduled three webinars on Indo-Pacific in mid-December 2021.

a. Session I: “Indo Pacific Strategies: Causes, Contents, and Consequences” held on 13 Dec 21 (for Group One: countries/organizations that have developed their own Indo Pacific strategies.). This Session focussed on countries or regional alliances with specific Indo-Pacific strategies identifying their interests and concerns. This session also explored their mutual compatibility and disagreements.

b. Session II: Indo Pacific Countries without Indo Pacific Strategies: Causes, Dynamics, and Prospects was on 14 Dec 21 (for Group Two: countries/organizations that have stayed silent to Indo

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Pacific Strategies). This Session concentrated on the considerations and constraints of many regional countries and organizations that have stayed silent on the Indo Pacific strategies implemented by major powers or organizations. It also discussed the factors behind the silence and whether it is an indication of a lack of strategy or counterstrategy to maximize their national interests in the new context of the Indo Pacific. I participated in this important session and presented Pakistan's perspective on Indo-Pacific.

c. Session III: Alternatives to Indo-Pacific Strategies: Competition, Accommodation, or Innovation? on held 15 Dec 21 (for Group Three: countries/organizations that have concerns about Indo Pacific strategies). Discussion centred on Chinese and Russian perceptions and responses to these Indo-Pacific strategies and their impact on broader US-China and US-Russia relations.

He showpiece of the 3 webinars was the keynote delivered on 14 2021 by H.E. Dr Mahathir Muhammad ex-Prime Minister of Malaysia and the respected elder statesman. (<https://www.facebook.com/100075693134502/videos/2770971956544972>) He highlighted that many nations are trying to balance amid the mistrust between China and the US. The divide between the two powers encompasses all aspects of relations including socioeconomic differences. The common denominator, however, remains the paranoia of the nuclear-armed superpowers against each other. He said China has increased its influence through the Belt and Road Initiative and in competition the B3W (Build Back better World) program of the US and G7 would do the same. He said that it was difficult to take the middle ground when deals such as AUKUS seemed belligerent and a threat to regional security. He said AUKUS was perceived as an Anglosphere union and raised suspicion, distrust, and anxiety. He also pointed out China's military assertiveness as unhelpful. He pointed out that the Muslim nations offered huge markets for China as well as the US and they could benefit from economic initiatives offered by the

contending powers. He advised that the Muslim states should not take sides.

After the keynote address, Pakistan's perspective was presented. Pakistan has had excellent relations with both China and the United States. In 1971, Pakistan paved the way for the establishment of diplomatic relations between China and the United States. Currently, the focus of the US Administration has moved from the Middle East and Afghanistan-Pakistan to the Indo-Pacific region. The United States has been encouraging India – a country hostile to Pakistan -- to become the policeman of the Indian Ocean. Since 2009, the United States is supporting India to become the net provider of security in the Indian Ocean and even beyond. In 2017, Australia, India, Japan, and the United States started an informal Quadrilateral Security Dialogue, the Quad. It is noteworthy that each of these 4 states has strained bilateral relations with China. Maritime cooperation among these countries is a strong feature. The Quad countries now tackle a broader agenda including security, economy and even health issues. They have voiced shared concerns about China's economic, political, and military strength in the region. The Indo-Pacific symbolises more confrontation than collaboration. The Indo-Pacific contestation between China and the United States poses a challenge for Pakistan. The Prime Minister of Pakistan has stated, "Pakistan should not be part of any bloc as the world heads towards a new Cold War". For Pakistan, balancing its ties with Washington and Beijing will not be easy.

Agreeing with Dr Mahathir's comments, many countries including Pakistan don't want a new Cold War. In the eyes of many Pakistani diplomats and strategists, Pakistan can help lower the temperature between the US and China. The Indo-Pacific region can benefit immensely from collaborative investments in human capital, which can bridge the growing divide.

The participant from the United Emirates was the President of Emirates Policy Centre Dr Ebtessam Al-Ketbi. She also supported the same theme. *“Small countries like UAE see China as an economic partner. We cannot endanger the relationship with the US.”*

The guiding lights behind the “Indo Pacific Strategic Dialogue” are Dr Ma Haiyun and Mr Xiao Wunan. Their motto is *“Peace and Security through dialogue and cooperation in the Asia Pacific and the Indo-Pacific”*. This motto represents the best approach for all states to manage the Indo-Pacific in the future.

Historical Perspective of Shipping and Insurance

by

Capt. Anwar Shah

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Banking and insurance services play a vital role in the economic development of any country. International trade, commerce and industry cannot develop and function without the key role of banking and insurance. We can understand how banking developed because it provides the facility to make collective investment in viable projects. But it seems nobody is certain as to how insurance came into this world. However, most people now believe that insurance originated from the needs of the shipping world.

In early days when there was no currency with universal acceptability, trade was done on the basis of barter exchange. In other words, traders used to exchange goods according to supply and demand. In those days, the ship-owner was the trader as he would collect goods and go to another land for profitable exchange. As he made money and became rich, he did not want to go to sea anymore and employed a captain. However, with the ship-owners off board, they became keenly concerned with the risks their ventures faced in their absence. Some people started taking bets on a ship's safe return. This allowed a number of people to share the risk and thereby encourage traders and ship-owners to undertake more and perhaps bigger business ventures. This is how insurance provides the cover for risk in any investment.

Britain's industrial revolution along with London and River Thames providing natural harbor from rough seas and piracy, galvanized its development as a trading port, eventually becoming the nucleus of maritime activities. Coffee was first imported into the UK in 1652 and

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soon became popular with the elites. After the great fire of London in 1666, London started to re-build with coffee shops in places where people could transact business. Historical records from 1688 for the first time mentioned about Edward Lloyd's Coffee shop situated on Tower Street. It was popular with traders, ship-owners and captains returning from overseas voyages.

Edward rented out boxes in his coffee shop for entrepreneurial businessmen to conduct insurance or risk undertaking contracts. One thing that Mr. Lloyd noticed was that there was a great demand for information for assessment of risk. Lloyd's Coffee House started publishing daily shipping news, informing people about departures and arrivals, the cargo aboard each ship and where other country's fleets were operating; and where pirates were known to be active. Thereafter Lloyd's List was first published in 1734 and the last printed version was published on 25th September 2013, with the electronic version still continuing as the world's oldest newspaper.

It is essential for underwriters to know about the operational and physical condition of the vessel and whether it is worth taking the risk. Underwriters need to know details such as – type of ship, when and where it was built, materials used in its

construction, when it was last docked and inspected, etc. Mr. Lloyd hired the services of a few ship-builders and engineers and the Lloyd's List gradually started to provide such information as well. There was a clear need from the insurance world for an organization that was free of any vested interest that could certify the health of a ship as the doctor can certify the health of a person. This eventually led to the formation of the Lloyd's Register of Shipping, a non-government organization not run for profit but to serve the industry with good advice and guidance, to enable ships to meet the required standards.

Until this time Lloyds Coffee shop was the biggest facilitator and housed all – ship-owners/brokers, underwriters, classification society, Lloyd's List and all others connected with the business. However, to exert its own freedom as a non-partial independent organization the Lloyd's Classification Society had to stand alone on its own and this is

precisely the reason why the two businesses eventually separated out. The insurance part of the business i.e. the ship-owners and their brokers along with the underwriters were the first to move out to Royal Exchange in 1774. The Lloyd's Register, the society for classification of ships moved out in 1786 to Lombard Street.

Today the Lloyd's Register of Ships is situated on Fenchurch Street, London with offices and surveyors located in major international business and shipping hub cities across the world. Over the years, it has earned international reputation, trust and confidence as an organization dedicated to excellence, performing its job of quality control without any fear or influence and not having any interest in loss or profit for anyone. Underwriters accept Lloyd's Register reports as the actual condition of the ship.

Lloyd's House of Underwriters is simply known as Lloyds and is located at 1, Lime Street, London. It may be argued that there is no other insurance market that conducts even half the business that Lloyd's deals with. However, it must be understood that there is no company known as Lloyd's Insurance Company. It is the business house that provides all the facilities for its members from both sides of the industry to negotiate risk undertaking business. It operates in the same way as Lloyd's Coffee Shop operated more than 300 years ago, except that it is now done under the law of the land as the British Parliament gave the Lloyd's system and procedures the status of an act of parliament.

With the passage of time, ship operations became more hazardous involving too many claims from too many corners. Some of these claims run into billions, especially those relating to protection of marine environment and removal of wrecks. No one ship-owner can pay those claims nor would the insurance market like to give cover to such unknown vast sums. The ship-owners finally found their own solution by forming mutual groups to protect each other. These groups are commonly known as Protection and Indemnity (P&I) Clubs.

These function to protect and indemnify the owners / members against any sudden claim from third parties.

It is not unusual for a ship to be arrested in port for not paying all claims on time but it is also customary for the relevant P&I Club to issue a bond or bank guarantee for the vessel to get released and continue its business while the judicial process continues in court. The P&I being mutual and not for profit, is aimed at rescuing a member, facing sudden and heavy losses, by collective / additional contribution from other members. Calls are subscribed instead of paying premium. Similarly ships that are moth-balled or laid up for period exceeding three months may request for return of calls. The principle on which it works is that no engagement in voyages and ventures mean no risk or hazard and as such 80 to 90 percent of the subscription may be refundable.

An analysis of the history of the development of financial services in London shows that shipping was the base for most other developments. The systems and procedures were developed by the industry itself. To quote Lloyd's CEO: *"For more than three centuries, the Lloyd's market has been sharing risk to protect people and businesses, inspiring them to create a braver world"*.