

# **Balance of Threat of the Quadrilateral Security Dialogue towards China's Presence in the South China Sea**

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## **Abstrak**

*Latar belakang artikel ini adalah ekspansi China di Laut China Selatan serta pengaktifan kembali Quadrilateral Security Dialogue (QSD). QSD adalah pertemuan non-formal yang beranggotakan United States, Australia, India, dan Japan. Artikel ini berusaha untuk menjawab 'Apa keunggulan yang dimiliki oleh QSD pasca pengaktifan kembali mereka untuk menghadapi kehadiran China di Laut China Selatan?'. Teori utama yang digunakan dalam artikel ini adalah Balance of Threat dari Stephen Walt. Hasil dari artikel ini memperlihatkan keunggulan yang dimiliki oleh QSD adalah lokasi geografis, sebagian besar sumber daya dan persenjataan, serta program latihan perang bersama dan modernisasi persenjataan. Keunggulan tersebut dapat digunakan QSD untuk menghadapi niat mengancam dari China dengan kehadiran mereka di Laut China Selatan.*

**Kata Kunci:** United States, Australia, Balance of Threat, China, India, Japan, Laut China Selatan, Quadrilateral Security Dialogue (QSD)

## **Abstract**

The background of this article is the expansion of China in the South China Sea and the reactivation of the Quadrilateral Security Dialogue (QSD). QSD is an informal meeting with members from the United States, Australia, India, and Japan. This article seeks to answer 'What advantages does QSD have after their reactivation to face China's presence in the South China Sea?'. The main theory used in this article is the Balance of Threat from Stephen Walt. The results of this article show the advantages possessed by QSD is the geographical location, the majority of resources and weapons, as well as joint war training and weapon modernization programs. These advantages can be used by QSD to face the threatening intentions of China with its presence in the South China Sea.

**Keywords:** Australia, Balance of Threat, China, India, Japan, Quadrilateral Security Dialogue (QSD), South China Sea, United States

## **1. Introduction**

The Quadrilateral Security Dialogue (QSD) is an informal meeting of Australia, India, Japan, and the United States. The four countries were initially involved as an ad-hoc team called the Tsunami Core Group whose task was to assist countries affected by the 2004 Indian Ocean Tsunami. In 2006, Japanese Prime Minister Shinzo Abe presented the idea of a foreign policy based on democratic values that involved close relations between Japan, India, and Australia. The United States expressed its intention to join the three countries in early 2007. In May 2007, QSD held its first meeting (Ádám, 2018).

The first QSD meeting did not have an official agenda and no decisions were made between them. The meeting only discussed issues related to shared interests among countries that have similar values in the growth of cooperation in the Asia-Pacific region. The first QSD meeting provoked a response from the domestic level of each country and China. The Australian Parliament questions the position of QSD which is not clear because it is not explicitly stated as security cooperation, alliance, or expansion. Then, the Indian Parliament questions the details of the issues discussed at the meeting. Finally, China questions the main purpose of establishing QSD (Madan, 2017).

The existence of QSD did not last long and in the end only held the first meeting. The dissolution of QSD was started from Australia which stated that it had no intention to remain involved in the informal meeting. Australia has no desire to engage in defense cooperation that can disrupt Asia-Pacific stability. Then, Japan also declared the withdrawal from QSD membership in September 2007. India withdrew from QSD because it faced internal problems which are public demonstrations against India's involvement in QSD. While the United States is no longer interested in using QSD as a means of dialogue. QSD was completely dissolved in February 2008 (Ádám, 2018).

In 2015, Chinese President Xi Jinping presented an agenda on China's maritime ambitions in the Asia-Pacific. China is encouraging countries in the region to assist in the development of the 21st Century Maritime Silk Road as a companion to the New Land Silk Road in Central Asia. Also, the Chinese Military Strategy White Paper states that the Chinese Navy will gradually shift the focus of the naval defense from "defense of the seafront" to "combination of seafront defense and protection of the high seas. The main areas of operation for the 21st Century Maritime Silk Road and the development of the Chinese Navy maritime defense are carried out in the South China Sea (Gale & Shearer, 2018).

In 2017, the United States said it would increase regional cooperation with Australia, India, and Japan. Australia also shows a desire to engage in multilateral cooperation. Japanese Foreign Minister Taro Kono said Japan would hold a high-level dialogue with Australia, India, and United States to discuss trade and defense cooperation in the South China Sea and Indian Ocean. The Japanese initiative was supported by India and Australia. Australia, India, Japan, and the United States, then meet in the Philippines in November 2017. The meeting marked the reactivation of QSD (Ádám, 2018).

From the introduction above, there are two main points as the background of this article. First, China's expansion activities in the South China Sea. Second, the reactivation of QSD. With those backgrounds, this article poses the question "What advantages does QSD have after their reactivation to face China's presence in the South China Sea?." The purpose of this question is to find out the characteristics or capabilities of QSD that can be used to face the threatening intentions of China with its presence in the South China Sea.

The article is divided into six parts. The first part is an introduction consisting of background and purpose. The next section is a review of Realism, Defensive Realism, and the Balance of Threat. Third, the method section which includes data collection techniques and data themes. The fourth part is about Chinese activities in the South China Sea. Next, the advantages of QSD in dealing with China's presence in the South China Sea. The last part of this article is the conclusion.

## **2. Realism, Defensive Realism, and Balance of Threat**

### **2.1. Realism**

Realism is a perspective in International Relations whose initial development began in the 1940s in the United States (Hadiwinata, 2017). Some Realism figures include E. H. Carr, Hans J. Morgenthau, Kenneth Waltz, Stephen Walt, John Mearsheimer, and Gideon Rose (Griffiths et al., 2009; Hadiwinata, 2017). The Realism perspective has three main assumptions: statism, survival, and self-help. These three assumptions are often abbreviated to 'Three S' (Dunne & Schmidt, 2014). Statism is an assumption of Realism which states that the country is the main sovereign actor. The sovereignty of the country is related to the use of force. Realism also said that countries compete with each other for power and security in anarchic international systems. The competition is zero-sum which means winning for one actor is a defeat for other actors.

The next assumption is survival. Survival according to Realism is a fundamental goal in international politics. Countries seek power to ensure their survival. The survival of the country is a condition that needs to be

guaranteed before reaching other goals. In other words, the main national interest of a country is survival (Dunne & Schmidt, 2014).

The final assumption is self-help. For Realism, self-help is the main way that must be done by the country to achieve security. The country must rely on itself because there is no higher authority to prevent the use of force in the international system. Furthermore, war is a condition that is always possible in an anarchic international system (Dunne & Schmidt, 2014).

In general, Realism can be divided into three types which are Classical Realism, Structural Realism, and Neoclassical Realism. Also, Structural Realism itself can be divided into two types which are Defensive Realism and Offensive Realism which are discussed in the following section.

## 2.2. Defensive Realism and Offensive Realism

Defensive realism argues that a country only needs to have enough power to ensure their survival (Dunne & Schmidt, 2014). If a country overly pursues its power then that country will be considered threats by other countries in the international system. Such conditions will encourage other countries to carry out balancing activities so that there is no more threatening country in the international system (Diaz et al, 2011). This balancing activity can also be referred to as 'punishment' against a country with excessive power (Mearsheimer, 2013). Therefore, Defensive Realism states that it is important for countries to build power that is not too large and avoid aggressive actions so that stability in the international system can be maintained (Hadiwinata, 2017).

Offensive Realism argues all countries have the main goal of achieving hegemony in an anarchic international system (Dunne & Schmidt, 2014). A country has an aggressive attitude in the anarchic international system (Tang, 2010). Besides, Offensive Realism argues that the countries will not be able to obtain complete information about sufficient power to ensure their survival and maintain the stability of the international system. With that in mind, Offensive Realism states that it is natural to collect as much power as possible amidst the conflicting international system conditions (Mearsheimer, 2013).

Defensive Realism as a derivative of Structural Realism has two main theories that can be used as an analytical framework for the phenomenon of international relations. These theories are the Balance of Power and Balance of Threat (Elman, 2008). These two theories can be said to complement each other and support each other's propositions for Defensive Realism, namely the survival of a country in an anarchic international system can be guaranteed with sufficient power (Mearsheimer, 2013).

### 2.3. Balance of Power and Balance of Threat

Balance of Power is a theory of Defensive Realism that explains the effects of anarchic international systems on state behavior to help themselves. In an anarchic international system, each country will adjust its power to remain in balance with other countries with internal and external efforts. Internal efforts can take the form of adjustments to military and economic capabilities. External efforts can be in the form of expanding alliances (Waltz, 1979). The balance of power occurs automatically when there are countries that have excess power (Donnelly, 2004; Dunne, 2013).

Balance of Threat is a theory that modifies the Balance of Power. Balance of Threat argues that countries adjust their power in response to deal with a threat that the country may pose, not just because of the power of a country (Yani et al, 2017). Four aspects that affect the level of threat that states may pose are aggregate power, geographic proximity, offensive power, and aggressive intentions (Walt, 1987). Aggregate power is the total amount of resources owned by a country in the form of population, industrial capability, and technological progress. Aggregate power can be said as a component that possesses a threat but can also be used as a means to support friendly countries (alliances) to face the threats (Walt, 1987). Geographic proximity related to the geographical scope of a threat can be posed by a country. Balance of Threat states that a country's ability to pose a threat from its power will be impeded by distance. Thus, countries that are close to each other will receive a greater threat than those who are far apart. In other words, countries tend to respond to a stronger neighboring country. The response can be in the form of adjusting the power or building alliances with other countries (Walt, 1987). The offensive power is the capacity to threaten the sovereignty or territorial integrity of a country. Offensive power can be said to be related to aggregate power but is not identical. The offensive power is an aggregate power that is processed to possess threats (Walt, 1987). Examples of offensive power are the number of military personnel and weapons. Countries that have a large amount of offensive power present conditions that force other countries around them to make adjustments to power or build alliances. These conditions can be said to be the main effect presented by offensive power. Aggressive intentions are aspects related to a country's perception of other countries. A country that is considered to be aggressive tends to trigger other countries to balance them. Such perceptions can form in the views of other countries when a country explicitly displays dangerous ambitions (Walt, 1987). This ambition can be in the form of area expansion, an increase in the number of military personnel, or an increase in the number of weapons (Walt, 1987). Therefore, the Balance of Threat states that a country does not simply make a balance based on the strength of another country but is also based on a country's aggressive intentions.

### 3. Research Method




The method used in this article is descriptive qualitative. Data collection techniques used in this article are literature studies and internet-based studies. There are two themes of data collected namely data related to China's presence in the South China Sea and the advantages possessed by QSD. The details of China's presence in the South China Sea are as follows: 1) claims of the Chinese territory in the South China Sea; 2) Chinese occupation in the South China Sea; 3) China's oil and natural gas block in the South China Sea. Next, the details of the advantages possessed by QSD are as follows: 1) the position of the QSD member countries towards the South China Sea geographically; 2) resources of QSD member country from 2017; 3) military personnel and weapons technology of QSD member countries from 2017. The details of the data are based on aspects of Balance of Threat, Chinese maritime ambitions, and reactivation of QSD in 2017. After the data is collected, the data is presented by visualization or description.

### 4. China's Presence in the South China Sea

#### 4.1. China's Claim in the South China Sea



**Figure 1** China's Claim in the South China Sea (AMTI & CSIS, 2019a)

Figure 1 shows Chinese claims in the South China Sea. In general, China has a territorial sea (Line ) drawn 12 nautical miles from the coast and an exclusive economic zone (EEZ) (Line ) drawn 200 nautical miles from the coast. China also has a claim to the South China Sea region which is marked by a nine-dash line (Line ). The nine-dash line is drawn over 200 nautical miles from the coast of China. This makes the nine-dash line ambiguous because it is not included as a territorial sea and EEZ. Therefore, the territory of China in the South China Sea marked by the nine-dash line cannot be simply declared as China's sovereign territory.

#### 4.2. China’s Occupation in the South China Sea

The South China Sea has a group of islands consisting of the Paracel Islands, the Spratly Islands, and Scarborough Shoal. China occupies island, reef, reefs, sands, and shoal in the South China Sea. The total area of China's occupation in the South China Sea is 28 areas. China's occupational activities include reclamation and infrastructure development. China's reclamation activities have already created around 3,000 acres of new land. Also, the infrastructure built by China is mostly military facilities (AMTI & CSIS, 2019b). Table 1 summarizes the details of China's occupation areas and activities in the South China Sea.

<b>Name</b>	<b>Location</b>	<b>Reclamation</b>	<b>Infrastructure</b>
<b>Cuarteron Reef</b>	Spratly Islands	56 Acre	Radar Station
<b>Fiery Cross Reef</b>	Spratly Islands	677 Acre	Air Base
<b>Gaven Reefs</b>	Spratly Islands	34 Acre	Administration Building
<b>Hughes Reef</b>	Spratly Islands	19 Acre	Administration Building
<b>Johnson Reef</b>	Spratly Islands	27 Acre	Communication Post
<b>Mischief Reef</b>	Spratly Islands	1,379 Acre	Air Base
<b>Subi Reef</b>	Spratly Islands	976 Acre	Air Base
<b>Antelope Reef</b>	Paracel Islands	-	Lighthouse
<b>Bombay Reef</b>	Paracel Islands	-	Sensor Radar
<b>Drummond Island</b>	Paracel Islands	-	Small Harbor
<b>Duncan Island</b>	Paracel Islands	-	Sea Base
<b>Lincoln Island</b>	Paracel Islands	-	Small Harbor

<b>Middle Island</b>	Paracel Islands	-	Administration Building
<b>Money Island</b>	Paracel Islands	-	Small Harbor, Helipad
<b>North Island</b>	Paracel Islands	7 Acre	Administration Building
<b>North Reef</b>	Paracel Islands	-	-
<b>Observation Bank</b>	Paracel Islands	-	Lighthouse
<b>Pattle Island</b>	Paracel Islands	-	Small Harbor, Helipad
<b>Quanfu Island</b>	Paracel Islands	-	Lighthouse
<b>Robert Island</b>	Paracel Islands	-	-
<b>South Island</b>	Paracel Islands	-	-
<b>South Sand</b>	Paracel Islands	-	-
<b>Tree Island</b>	Paracel Islands	25 Acre	Big Harbor, Helipad
<b>Triton Island</b>	Paracel Islands	-	Small Harbor, Helipad
<b>West Sand</b>	Paracel Islands	-	-
<b>Woody Island</b>	Paracel Islands	-	Air & Sea Base
<b>Yagong Island</b>	Paracel Islands	-	Lighthouse
<b>Scarborough Shoal</b>	Scarborough Shoal	-	-

**Table 1** Occupied Area and Activity of China in the South China Sea (Processed from AMTI & CSIS, 2017a, 2017b, 2018a, 2018b, 2019b, 2019d, 2019e, 2019f, 2019g, 2019h, 2019i, 2019j, 2019k, 2019l, 2019m, 2019n, 2019o, 2019p, 2019q, 2019r, 2019s, 2019t, 2019u, 2019v, 2019w, 2019x, 2019y, 2019z, 2019aa, 2019ab, 2019ac, 2019ad, 2019ae).

#### 4.3. China's Energy Exploration in the South China Sea

The South China Sea contains around 11 trillion barrels of oil and around 190 billion cubic meters of natural gas (AMTI & CSIS, 2019c). Based on a survey conducted by the United States, the South China Sea is estimated to still contain 12 trillion barrels of oil and 160 billion cubic meters of undiscovered natural gas. A survey conducted by China also stated that the South China Sea has abundant undiscovered oil and natural gas content (AMTI & CSIS, 2019c). China already has a license to block oil and natural gas mining in the South China Sea (See Figure 2). The blocks are scattered around ZEE China and the nine-dash line. Not all of China's oil and natural gas blocks in the



South China Sea operate, mainly blocks around the nine-dash line (AMTI & CSIS, 2019c).



**Figure 2** China's Crude Oil and Natural Gas Blocks in the South China Sea (AMTI & CSIS, 2019c)

## 5. Advantages of QSD to face China's Presence in the South China Sea

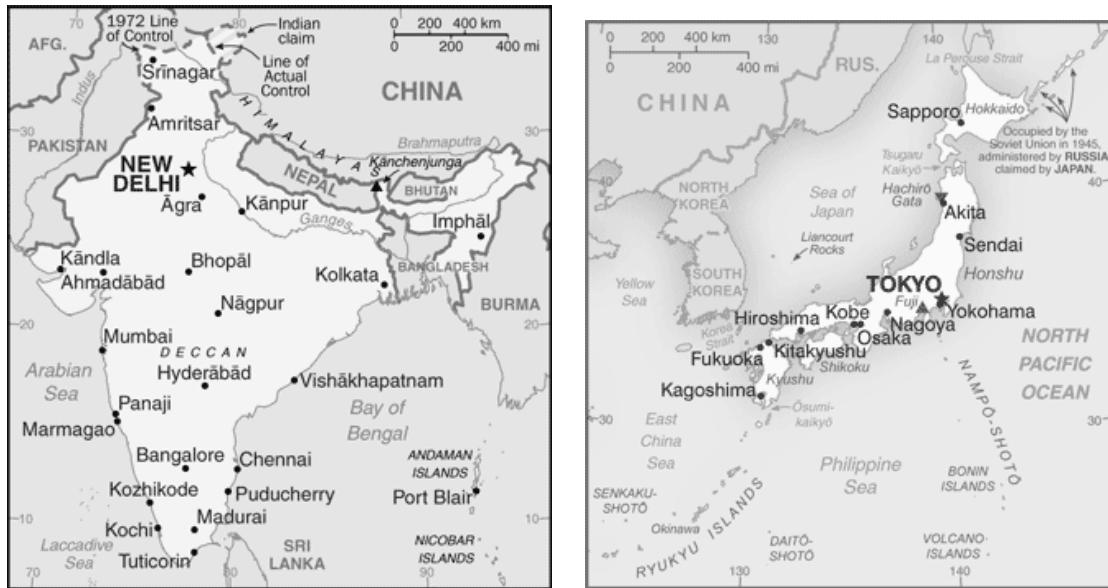
### 5.1. Geographical Location of QSD Member Countries toward the South China Sea



**Figure 3** Australia (CIA, 2019g)

Geographically, Australia is located in Oceania (See Figure 3). Australia is a continent between the Indian Ocean and the Southern Pacific Ocean. Australia has an area of 7.741 million km<sup>2</sup>. Australia is the largest country in Oceania and the Southern Hemisphere (CIA, 2019b).

India is a country located in South Asia (See Figure 4). India is bordered by the Arabian Sea and the Bay of Bengal and also bordered by several countries such as Bangladesh, Bhutan, China, Nepal, and Pakistan. The total area of India is 3,287 million km<sup>2</sup>. With this area, India is the largest country in South Asia. India is also close to the Indian Ocean. The Indian Ocean is one of the most important sea trade routes in the world. India has a territorial dispute with China in Kashmir. Kashmir is the largest and most militarized land area dispute in the world (CIA, 2019c).



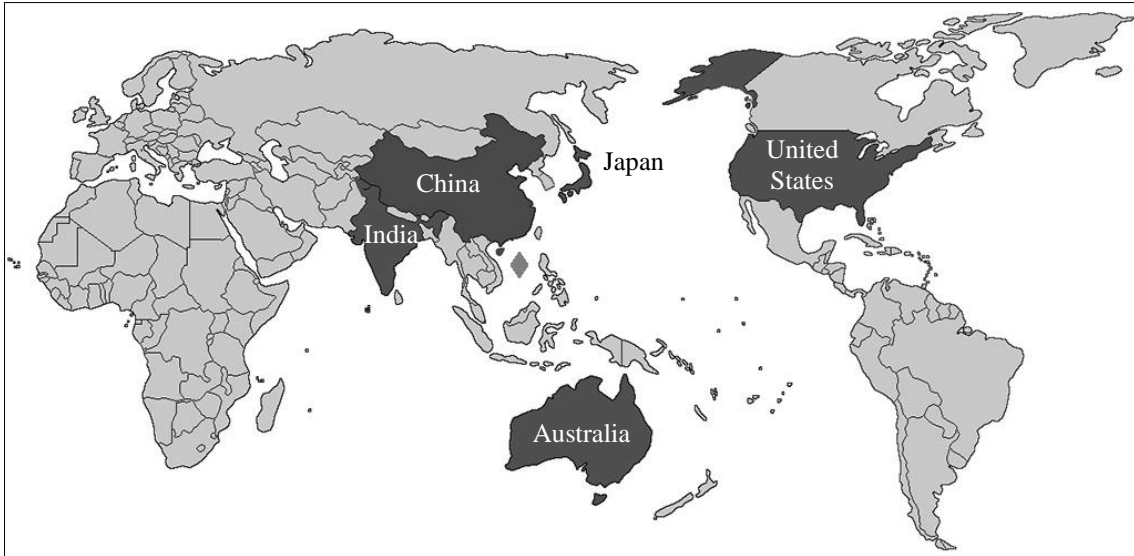
**Figure 4** India and Japan (CIA, 2019h, 2019i)

Japan is a country with an area of 377 thousand km<sup>2</sup>. Japan's geographical location is in East Asia (See Figure 5). Japan is an archipelago located between the northern Pacific Ocean and the Sea of Japan. Such geographical location makes Japan can be called a country with a strategic location in Northeast Asia. Japan has a territorial dispute with China over the claims of Senkaku Island (CIA, 2019d).



**Figure 6** United States (CIA, 2019f)

The geographical location of the United States is in North America (See Figure 6). United States has land borders with Canada and Mexico and sea borders with the Atlantic Ocean and the northern Pacific Ocean. The area of the United States is 9,833 million km<sup>2</sup>. United States is the third-largest country in the world after Russia and Canada (CIA, 2019a).



**Figure 7** Map of QSD Member Countries and China relative to the South China Sea (Processed from Tricky Truths, 2019)

Figure 7 shows the geographical location of the QSD member countries and China, marked by the names of each country, towards the South China Sea (See Diamond below China). Geographically, QSD member countries can be said to have maritime superiority in international waters especially the Pacific Ocean and Indian Ocean. The two oceans flanking the South China Sea. The maritime superiority can be utilized optimally by QSD member countries by ensuring international law and norms enforcement at sea. QSD member countries must maintain the status quo of freedom of navigation from the threat of China's expansion. Therefore, QSD member countries need to coordinate in the development and support of their respective capabilities (Tarapore, 2018).

5.2. Resources of QSD Member Countries

5.2.1. Population

	<b>2017</b>	<b>2018</b>
<b>Australia</b>	24.601.860	24.992.369
<b>India</b>	1.338.658.830	1.352.617.330
<b>Japan</b>	126.785.797	126.529.100
<b>United States</b>	325.147.121	327.167.434
<b>QSD</b>	1.815.193.608	1.831.306.233
<b>China</b>	1.386.395.000	1.392.730.000

**Table 2** Population of QSD Member Countries and China in 2017-2018  
(Processed from World Bank, 2019a)

	<b>2017</b>	<b>2018</b>
<b>Australia</b>	65,5%	65,1%
<b>India</b>	66,5%	66,7%
<b>Japan</b>	60%	59,7%
<b>United States</b>	65,7%	65,4%
<b>QSD</b>	71,7%	71,2%

**Table 3** Percentage of Productive Age (15-64) Population of QSD Member Countries and China in 2017-2018 (Processed from World Bank, 2019e)

The population of QSD member countries is greater than the population of China in 2017 and 2018 (See Table 2). During this period, the total population of QSD member countries was around 1.8 billion. China's population is around 1.4 billion in the same period. However, when comparing the percentage of the productive age population (15-64 years), China is superior to each of the QSD member countries (See Table 3).

Projection of population growth in the world between 2019 and 2050 is expected to be supported by population growth in 9 countries. 2 of the 9 countries are India and the United States. India's population is estimated to increase by almost 273 million people between 2019 and 2050. India's population is estimated to be around 1.5 billion people in 2050. Besides, India

is expected to defeat China as the most populous country in the world around 2027. Furthermore, China is estimated to have a population of around 1.1 billion people in 2050. These estimations make China will remain ranked below India in 2050 (United Nations, 2019).

5.2.2. GDP, Defence Budget, and Export Value

	2017	2018
<b>Australia</b>	USD 1.330.803.230.000	USD 1.432.195.180.000
<b>India</b>	USD 2.652.551.200.000	USD 2.726.322.620.000
<b>Japan</b>	USD 4.859.950.560.000	USD 4.970.915.560.000
<b>United States</b>	USD 19.485.393.850.000	USD 20.494.100.000.000
<b>QSD</b>	USD 28.328.698.840.000	USD 29.623.533.360.000
<b>China</b>	USD 12.143.491.450.000	USD 13.608.151.860.000

**Table 4** GDP of QSD Member Countries and China in 2017-2018 (Processed from World Bank, 2019b)

	2017	2018
<b>Australia</b>	USD 25.000.000.000	USD 26.600.000.000
<b>India</b>	USD 52.500.000.000	USD 57.900.000.000
<b>Japan</b>	USD 46.000.000.000	USD 47.300.000.000
<b>United States</b>	USD 602.800.000.000	USD 643.300.000.000
<b>QSD</b>	USD 726.300.000.000	USD 775.100.000.000
<b>China</b>	USD 150.500.000.000	USD 162.800.000.000

**Table 5** Defense Budget of QSD Member Countries and China in 2017-2018 (Processed from IISS, 2018; IISS, 2019)

In 2017 and 2018, the QSD member Gross Domestic Product (GDP) is twice as high as China (See Table 4). QSD member countries have USD 28,328 trillion in 2017 and USD 29,623 trillion in 2018. While China has USD 12,143 trillion in 2017 and USD 13,608 trillion in 2018. Furthermore, the defense budget of QSD member countries is five times more than China in 2017 and

2018 (See Table 5). The total defense budget of QSD member countries is USD 726.3 billion in 2017 and USD 775.1 billion in 2018. China's defense budget is USD 150.5 billion in 2017 and USD 168.2 billion in 2018 (IISS, 2018; IISS, 2019).

The defense budget strongly supports the achievement of three objectives which are the weapons modernization, skills improvement of military personnel, and expansion of the structure. The United States and Australia are allocated their defense budget to the modernization and improvement of naval and air weapons quality (IISS, 2019). India's defense budget is allocated to strengthening the domestic defense industry to overcome logistics problems (IISS, 2018). Japan also allocated the defense budget to strengthen its defense industry and weapons technology research (IISS, 2019).

<b>2017</b>	
<b>Australia</b>	USD 281.876.460.000
<b>India</b>	USD 498.165.360.000
<b>Japan</b>	USD 863.818.610.000
<b>United States</b>	USD 2.350.175.000.000
<b>QSD</b>	USD 3.994.035.430.000
<b>China</b>	USD 2.424.199.910.000

**Table 6** Export Value QSD Member Countries and China in 2017 (Processed from World Bank, 2019c)

The total export value of QSD member countries is greater than China in 2017 (See Table 6). QSD member countries have a total export value of USD 3.994 trillion and China has an export value of USD 2.424 billion. The main export commodities of QSD member countries include agricultural and livestock products, mining products, as well as industrial, electronic, automotive and medical equipment (CIA, 2019a; CIA, 2019b; CIA, 2019c; CIA, 2019d). The main export commodities of China are industrial equipment and electronics, textiles, clothing, and furniture (CIA, 2019e).

In mid-2018, the United States imposed a 25% tariff on Chinese exports to the United States valued at USD 34 billion. China responded by imposing a 25% tariff on United States exports to China valued at USD 34 billion as well.

The situation started a trade war between the two countries (Steinbock, 2018). The trade war had the effect of slowing Japan's exports to the United States and China. Japan's export rate to the United States changed from 1.4 points to 0.4 points. While the rate of Japan's exports to China changed from 3.6 points to 2 points (Iizuka, 2018). Different impacts experienced by India and Australia. The impact of the trade war on India was an increase in the rate of exports to America and China from 0.2 points to 0.5 points (Abiad et al, 2018). Whereas Australia is less affected by trade wars because Australian commodities are consumed predominantly at the domestic level (PwC Australia, 2019).

5.2.3. Crude Oil and Natural Gas Reserve

	2017	2018
<b>Australia</b>	3,985 Billion Barrels	3,995 Billion Barrels
<b>India</b>	4,495 Billion Barrels	4,423 Billion Barrels
<b>Japan</b>	-	-
<b>United States</b>	39,160 Billion Barrels	47,120 Billion Barrels
<b>QSD</b>	47,640 Billion Barrels	55,538 Billion Barrels
<b>China</b>	25,627 Billion Barrels	25,927 Billion Barrels

**Table 7** Crude Oil Reserve of QSD Member Countries and China in 2017-2018 (Processed from OPEC, 2019)

	2017	2018
<b>Australia</b>	2,4 Trillion Cubic Meters	2,4 Trillion Cubic Meters
<b>India</b>	1,2 Trillion Cubic Meters	1,3 Trillion Cubic Meters
<b>Japan</b>	-	-
<b>United States</b>	11,9 Trillion Cubic Meters	11,9 Trillion Cubic Meters
<b>QSD</b>	15,5 Trillion Cubic Meters	15,6 Trillion Cubic Meters
<b>China</b>	6,1 Trillion Cubic Meters	6,1 Trillion Cubic Meters

**Table 8** Natural Gas Reserve of QSD Member Countries and China in 2017-2018 (Processed from BP, 2019)

In 2017 and 2018, QSD member countries' crude oil reserves were greater than China (See Table 7). QSD member countries have crude oil reserves of



47.460 billion barrels in 2017 and 55.538 billion barrels in 2018. On the other hand, China has crude oil reserves of 25.662 billion barrels in 2017 and 25.927 billion barrels in 2018. Furthermore, actives oil rigs owned by QSD member countries are more than China in 2017 and 2018. The number of active rigs in QSD member countries is 1,060 in 2017 and 1,224 in 2018. Whereas China has 32 active rigs in 2017 and 35 in 2018 (OPEC, 2019).

QSD member countries have more natural gas reserves than China (See Table 8). The amount of natural gas reserves owned by QSD member countries is 15.5 trillion cubic meters in 2017 and 6.1 trillion cubic meters in 2018. While China has natural gas reserves of 15.5 trillion cubic meters in 2018. Then, the United States and Australia included in the ranking of the top three contributors to increasing world natural gas production in 2018 (BP, 2019). Total world production of natural gas increased by 5.2% or 190 billion cubic meters (BP, 2019). The United States contributes 86 billion cubic meters and Australia contributes 17 billion cubic meters (BP, 2019).

#### 5.2.4. Patents

	<b>2017</b>
<b>Australia</b>	2.503
<b>India</b>	14.961
<b>Japan</b>	260.290
<b>United States</b>	293.904
<b>QSD</b>	571.658
<b>China</b>	1.245.709

**Table 9** Total Patents of QSD Member Countries and China in 2017  
(Processed from World Bank, 2019d)

In 2017, the number of QSD member countries' patents was less than China (See Table 9). QSD member countries have a total of 571 thousand patents and China has 1.2 million patents. In other words, the number of Chinese patents is twice that of QSD member countries. A large number of patents makes China categorize as an efficient country in innovation (WIPO, 2018). These innovations are mainly in the fields of knowledge and technology (WIPO, 2018). China's efficiency in innovation is supported by education, public infrastructure, trade, competition and market scale, skilled workers, scientific output, and intangible assets (WIPO, 2018). Furthermore, one of

the cities in China, Shenzhen, is ranked in the top five cities with the most patent ownership in the world (WIPO, 2018).

China can still improvise innovation activities in the future (Santacreu & Zhu, 2018). Aspects that need to be improvised include the quality of innovation and the development of the innovation’s field that does not only prioritize information technology (China Power Team, 2019). These aspects can ensure China to be the right leader in innovating and getting better (Santacreu & Zhu, 2018). However, it takes quite a long time for improvisation to achieve these two aspects (China Power Team, 2019). For its short-term steps, China plan at least continues to invest in innovation and shift the focus of innovation from quantity to quality (Santacreu & Zhu, 2018).

### 5.3. Military Personnel and Weapons of QSD Member Countries

#### 5.3.1. Active and Reserve Military Personnel

	2017		2018	
	Active	Reserve	Active	Reserve
<b>Australia</b>	57.800	21.100	57.050	21.050
<b>India</b>	1.395.100	1.155.000	1.444.500	1.155.000
<b>Japan</b>	247.150	56.000	247.150	56.000
<b>United States</b>	1.348.400	857.950	1.359.450	845.600
<b>QSD</b>	3.084.450	2.090.050	3.108.150	2.077.650
<b>China</b>	2.035.000	510.000	2.035.000	510.000

**Table 10** Total Military Personnel of QSD Member Countries and China in 2017-2018 (Processed from IISS, 2018; IISS, 2019)

In 2017 and 2018, QSD member countries have more active military and reserve personnel than China (See Table 10). QSD member countries have 3.084 million active military personnel and 2.090 million reserve military personnel in 2017. While China has 2.035 million active military personnel and 0.51 million reserve military personnel in the same year. Then, QSD member countries have 3.108 million active military personnel and 2.077 million reserve military personnel in 2018. In 2018, China has the same number of active and reserve military personnel as last year.

The United States, India, and Japan have a joint war exercise program called Malabar. After reactivation of QSD, the three countries have held two

exercises (Task Force 70 Public Affairs, 2018; Submarine Group 7 Public Affairs, 2019). The 2018 edition of the Malabar was held on June 7-11 in the Philippines and Guam. Malabar 2018 consists of ashore training and at-sea training (Gady, 2018). Ashore training consists of patrol and reconnaissance operations, anti-submarine battles, and seizure operations (Gady, 2018; Task Force 70 Public Affairs, 2018). At-sea training consists of anti-submarine operations, inter-ship battles, and air defense (Gady, 2018; Task Force 70 Public Affairs, 2018). Next, the 2019 edition of Malabar held from September 26 to October 4 in Japan (Indo-Asian News Service, 2019; Submarine Group 7 Public Affairs, 2019). The 2019 exercise consist of only ashore training (Submarine Group 7 Public Affair, 2019).

Australia has joint war exercises separate from Malabar. Australia has joint war exercises program with the United States and Japan called Talisman Saber (Panda, 2019). Then, Australia also has joint war exercises with India in AUSINDEX (Australian High Commission New Delhi, 2019). Australia has held Talisman and AUSINDEX once after the reactivation of QSD (GKToday, 2019; Royal Australian Navy, 2019). Talisman Saber takes place on 11-24 July 2019 in Shoalwater Bay which consists of planning and carrying out amphibious, urban, marine, and air operations (Royal Australian Navy, 2019). AUSINDEX takes place on April 2-16, 2019 in the Indian Ocean which focuses on at-sea training (Australian High Commission New Delhi, 2019).

5.3.2. Land, Naval, and Air Weapons

	2017			2018		
	IFV	MBT	Artillery	IFV	MBT	Artillery
<b>Australia</b>	253	59	239	253	59	239
<b>India</b>	2.500	3.097	9.684	3.100	3.565	9.719
<b>Japan</b>	68	690	1.774	68	667	1.716
<b>United States</b>	3.336	2.831	6.894	3.419	2.833	6.883
<b>QSD</b>	6.157	6.677	18.591	6.840	7.124	18.557
<b>China</b>	3.860	6.740	13.420	5.060	5.800	8.954

**Table 11** Total Land Weapons of QSD Member Countries and China in 2017-2018 (Processed from IISS, 2018; IISS, 2019)

In 2017, QSD member countries had more land weapons which are Infantry Fighting Vehicles (IFV) and Artillery than China (See Table 11). QSD member countries have 6 thousand IFV and 18 thousand artillery. China has 3

thousand IFV and 13 thousand artillery. Despite losing in the number of IFVs and artillery, China has more Main Battle Tanks (MBT) than QSD member countries in 2017. The conditions of land weapons of QSD member countries and China change in the following year. In general, QSD member countries have more IFV, MBT, and Artillery than China. Then, there is also a decrease in the number of China's MBT and Artillery in 2018. The number of MBT owned by China is reduced from 6 thousand units to 5 thousand units. The number of Chinese artilleries was reduced from 13 thousand units to 8 thousand units.

	2017			2018		
	Submarines	Aircraft Carriers	Cruisers, Destroyers, Frigates	Submarines	Aircraft Carriers	Cruisers, Destroyers, Frigates
<b>Australia</b>	6	-	12	6	-	13
<b>India</b>	14	1	27	16	1	27
<b>Japan</b>	19	4	43	20	4	45
<b>United States</b>	68	11	96	67	11	101
<b>QSD</b>	107	16	178	109	16	186
<b>China</b>	61	1	82	58	1	86

**Table 12** Total Naval Weapons of QSD Member Countries and China in 2017-2018 (Processed from IISS, 2018; IISS, 2019)

QSD member countries have more naval weapons than China in 2017 and 2018 (See Table 12). QSD member countries have 107 submarines, 16 aircraft carriers, and 178 cruisers, destroyers, and frigates. In the following year, QSD member countries had 109 submarines, 16 aircraft carriers, and 186 cruisers, destroyers, and frigates in 2018. From this number of weapons, QSD member countries possess a dominant advantage in aircraft carrier ownership compared to China.

In air weapons, QSD member countries have more fighter planes and assault helicopters than China in 2017 and 2018 (See Table 13). In 2017, QSD member countries had 4,914 fighter planes and 848 assault helicopters. The amount is more than China which has 1,966 fighter planes and 246 assault helicopters. In the following year, QSD member countries had 4,896 fighter planes and 982 assault helicopters. The number is still more than China which has 1,932 fighter planes and 278 assault helicopters. Although QSD member

countries have an advantage in the number of fighter planes and assault helicopters, China has an advantage in the number of bombers in 2017 and 2018. China has a total of 162 bombers in 2017 and 193 bombers in 2018. QSD member countries have 157 bombers in 2017 and 2018.

	2017			2018		
	Fighter Planes	Attack Helicopters	Bombers	Fighter Planes	Attack Helicopters	Bombers
<b>Australia</b>	163	-	-	172	-	-
<b>India</b>	785	19	-	756	19	-
<b>Japan</b>	542	36	-	547	35	-
<b>United States</b>	3.424	793	157	3.421	928	157
<b>QSD</b>	4.914	848	157	4.896	982	157
<b>China</b>	1.966	246	162	1.932	278	193

**Table 13** Total Air Weapons of QSD Member Countries and China in 2017-2018 (Processed from IISS, 2018; IISS, 2019)

Australia is currently focused on modernizing fighter planes. The process of modernization of Australian fighter planes is not too hampered because it is also supported by the United States. Australia has access to weapons from the United States. The United States also helped in this regard because it saw Australia as one of the keys to the security dynamics of the Asia-Pacific region (Yeo, 2019). Even with this ease of access, Australia will continue to strive to develop the domestic defense industry. Australia has now started with the fighter component industry. Furthermore, Australia will also develop defense industry capabilities in naval and land weapons to support the weapons modernization program in the future (Commonwealth of Australia, 2016).

India is just about to start weapon modernization in 2019 (Pant & Bomakanti, 2019). The weapons modernization program is important for India because India is a country with abundant military personnel but lacks weapons capability. Such conditions make India can be said to still have a fighting force that is not optimal, especially for naval and air. Submarines and aircraft carriers are still in inadequate numbers. Whereas in the air force, India needs to modernize fighter planes and assault helicopters (Gady, 2019). With the modernization of weapons started, it will support India's combat strategy which prioritizes offensive operations with short duration (Bukhari, 2019).

Japan is a country that can be said to have capable weaponry capabilities. Even so, Japan continues to modernize weapons, especially for air weapons (Worldview, 2019). Japan has plans to increase the number of fighter units. Japan also converts aircraft carriers from assault helicopter carriers into fighter plane carriers. Modernization programs will also begin to involve the domestic defense industry and not rely too much on access to weapons to the United States (Worldview, 2019). With the weapons modernization program, Japan can face regional threats, especially in the East China Sea and South China Sea (Copp, 2019).

The United States has been intensively modernizing weapons since 2017. Weapons that are the focus of modernization by the United States include MBT, IFV, submarines, fighters, and bombers. The process of modernization of weapons of the United States can be said to run fairly smoothly, especially for sea and air dimensions. The main obstacle to weapons modernization experienced by the United States is the cost of maintaining modern weapons in the future. The maintenance costs will increasingly be greater to make the United States weapons modernization program expected to be slower. The implications of the slow modernization of US weapons are the difficulty in producing or obtaining a new generation of weapons systems and the possibility of being left behind by other countries (Cancian, 2019).

### 5.3.3. ICBM and UAV

	2017		2018	
	ICBM	UAV	ICBM	UAV
<b>United States</b>	400	628	400	530
<b>Australia</b>	-	-	-	-
<b>India</b>	-	13	-	6
<b>Japan</b>	-	-	-	-
<b>QSD</b>	400	641	400	536
<b>China</b>	70	15	70	19

**Table 14** Total ICBM and UAV of QSD Member Countries and China in 2017-2018 (Processed from IISS, 2018; IISS, 2019)

QSD member countries have more Intercontinental Ballistic Missiles (ICBM) and Unmanned Aerial Vehicles (UAV) than China in 2017 and 2018 (See Table 14). QSD member countries have 400 ICBMs in 2017 and 2018. All ICBMs are owned by the United States. While China has 70 ICBM in 2017 and 2018.

Next, QSD member countries have 641 UAV in 2017 and 536 UAV in 2018. While the number of China's UAV is 15 units in 2017 and 19 units in 2018. Even though QSD member countries have a large number of UAVs compared to China in 2017 and 2018, the number of UAVs has decreased in those two years.

The United States can be said to play a major role in the dynamics of the security situation in the Asia-Pacific with its ICBM. The ICBM has a deterrence capacity towards countries with low nuclear weapons capacity. Furthermore, ICBM also plays a role in ensuring the integrity of relations with other countries when these weapons are very useful to overcome the same threat (Caston et al, 2014). China states that it will continue to maintain the number of ICBM at low level. China argues that the amount of ICBM is adequate to defend herself from an attack. Even so, China will continue to strive to modernize ICBM in the future (Kristensen & Korda, 2019).

UAVs are transformative weapons because they can minimize the risk of human operators, not disposable, and have the flexibility to reach the remote target (Davis et al, 2012; Gilmore et al, 2019). UAV technology in the military sector is strongly supported by the development of communication and navigation technology. These two technologies make UAVs suitable for military operations such as surveillance and assault. However, this does not make UAVs a deadly latest weapon because the weapons capacity is hindered by its physics. Improvising UAVs' weapons capacity will ensure the future of war and defense (Davis et al, 2012).

## **6. Conclusion**

QSD has a dominant advantage over China in terms of geographical location, resources, and weapons. The geographical location of the QSD member countries (Australia, India, Japan, and the United States) that surround the Indian and Pacific Oceans gives maritime superiority to China because it flanks the South China Sea. QSD member countries have more resources than China in terms of population, GDP, defense budget, export value, and oil and natural gas reserves. QSD member countries also have more military personnel and weapons such as artillery, submarines, fighters, and ICBM. However, China has advantages in terms of resources such as patents and weapons such as bombers. Nonetheless, the joint war exercise and weapons modernization program make QSD advantage will remain optimal to face the threatening intentions of China with its presence in the South China Sea.

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