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Impact of Belt Road Initiative on Indonesia's Oil and Gas Trade

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Abstract

The development of international trade is important to boost an economy. Economic integration is used by Indonesia to increase trade values. Belt Road Initiative (BRI) is a new integration that is usefull for Indonesia. Under BRI, the most frequently traded commdities are oil and gas. However, Indonesia should consider impacts of the integration on the trade of oil and gas. This study using a gravity model aims to analyse impact of BRI on Indonesia's oil and gas trade and determinant factors in the trade. The result of this study shows that Indonesia get a trade diversion from BRI. Determinant factors influencing on Indonesia's trade are GDP, distance, price and consumption. Indonesia should take more benefits of energy sectors particularly oil and gas from BRI.

Key Words: economic integration, oil and gas, gravity model, BRI, international market

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INTRODUCTION

The BRI project itself is at the centre of the policies given by President Xi Jinping who want to reconnect China to Central Asia, Europe and the Middle East and to strengthen China's dominance as an economic power by providing infrastructure program assistance across integration members. BRI targets Asia, Africa and Europe along 5 routes; the Chinese government focuses and takes advantage of international routes, important cities and major ports to strengthen relations and economic development (Iqbal, B.A., Rahman, M.N., & Sami, S, 2019).

Based on Figure 1.1, the BRI consists of the Maritime Silk Road (MSR) and the Silk Road Economics Belt (SREB), where the MSR will connect China with regions in South and Southeast Asia by sea. SREB as a route that will connect Europe by land. BRI itself has connected around 140 countries with 6 economic corridors, namely, 4 land routes and 2 sea routes (OECD,2018). The economic corridor focuses on countries with large energy resources, namely the new Eurasian land bridge, the China-Mongolia-Russia Corridor, China-West Asia Corridor, China-Indonesia China Corridor, China-Pakistan Economics Corridor, Bangladesh-China- India-Myanmar Corridor. The paths traversed by BRI such as Central Asia, West Asia, South Asia are consumer markets and are an ideal route to carry out extensive export activities that will create substantial growth (China-Britain Business Council,2020).

Figure 1. Map of Belt Road Initiative
Sources: China-Britain Business Council (2020)

Countries that are members of BRI expect growth, thus the promotion of trade without barriers is the key to the BRI concept (Iqbal, B.A., Rahman, M.N., & Sami, S, 2019). By bringing the Belt Road Initiative, China aims to have a region with new investments, opportunities to develop new businesses, targeting export supplies,

energy supplies and building construction materials to create economic dependence (Chung, C.P,2017). The Belt Road Initiative will not only focus on the growth side but will become a pathway for the movement of oil and gas (oil and gas) for producers which will be profitable for its members and oil and gas trade will be the key and will have an impact on the global economy (Zhang, C., Fu, J., Pu, Z,2019). The demand for China's oil and gas in 2018 increased from year to year. In 2018 alone China's total consumption was dominated by imports for oil 71.3% and gas 45.3% (Yang, S., & Zarzoso, I,2014).The Asian region is one of the sources of oil and gas which is one of the destinations for obtaining oil and gas supplies. The Asian region is hopeful with the development of abundant natural resources and China is also expanding regional relations. Therefore, the main focus of BRI is related to trade and investment in oil and gas.

The geographical location for South and Southeast Asia falls into the China-Pakistan Economics and the Bangladesh-China-India-Myanmar Corridor. This corridor is directly connected to 2 lines, namely SREB and MSR. Based on [8], the value of imports and exports of Oil and Gas (oil and gas) in China is still dominant for imports from South and Southeast Asian countries. The high import activity is due to industrialization activities that make China require oil and gas imports from the Asian region and has increased every year. The biggest reason for the formation of BRI integration is as a link to get more and easier oil and gas supplies in the Asian region. According to (Zhang, C., Fu, J., Pu, Z,2019), nearly 250 million tons or 61% of the world's total oil has passed through the trade route. Therefore, energy trade cooperation, especially oil and gas, will be an important priority for BRI integration. Therefore, several member countries have started to become trading partners for oil and gas commodities. According (Zhao, L., Li, D., Guo, X., Xue, J., Wang, C & Sun, W, 2021), in 2018, 28 countries cooperated with China. Forms of cooperation in the form of investment, exploitation, mining, processing and international market development. Countries that cooperate include countries in South Asia and Southeast Asia, including Indonesia, which participates in cooperation in the oil and gas sector.

Oil and gas trade conditions in South and Southeast Asia tend to import rather than export. This condition is caused by uneven oil and gas reserves and a population explosion which makes it impossible for these reserves to meet the needs of industry and the consumption needs of the people. According to the (WITS,2021), the value of Indonesia's oil and gas exports to South and Southeast Asian countries was recorded at 92.80 million US$ in 2019 and the import value was recorded at 15 thousand US$. In 2020, the export value itself will increase to US$ 179 million or almost 2 times, enabling Indonesia to focus on trade in South and Southeast Asia. According to (Kementerian Perdagangan,2021), the value of the contribution of oil

and gas for exports in 2021 will reach 14.98% so that oil and gas commodities become the mainstay commodity for Indonesian exports.

Based on Figure 2 it can be seen that the productivity of Indonesia's oil and natural gas from 2016-2020 has decreased. The highest oil and natural gas production in 2018 for oil and gas was 1,372 mboepd. The downward trend for natural gas production occurred in 2019 and 2020, the decline was due to leakage of flow pipes and the Covid-19 pandemic which reduced demand. On the oil side, there is saturation as a result of the absence of sustainable exploration as well as unstable world oil prices and a pandemic that has reduced oil production. The integration of the Belt Road Initiative will create a seamless relationship that is expected to generate benefits for its members. Indonesia as one of the largest oil and gas producers, in its (IHS Markit,2021), reports an oil and gas production level of 1,836.7 thousand b/d enabling Indonesia to enter the market as an oil and gas exporter. However, Indonesia has the potential to become a market for countries that are members of BRI for refined oil and gas products.

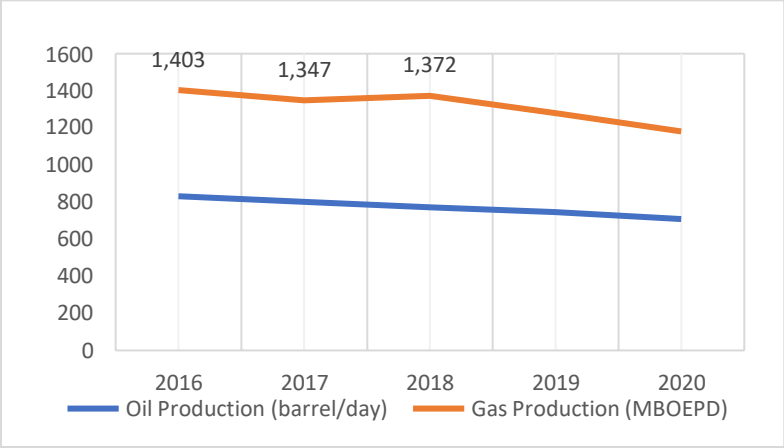

Figure 2. Indonesian Oil and Gas Production (2016-2020)
Sources: Ministry of Energy and Mineral Resources Indonesia (2020)

In previous studies, it was found that BRI will have a positive impact, such as the (Puspitawati, E, 2021), BRI in 2030 will have a trade impact of up to 5% through cooperation and knowledge transfer. The research (Foo, N., Lean H., & Salim R, 2020), stated that the trade impact of BRI ASEAN and China made trade creation. Based on (Cui, L., & Song, M,2018), states that BRI will be a promising trade route, this potential can occur. Research results reveal an increase in the economy and welfare that can encourage the development of BRI. However, some countries will experience losses, such as research by Herrero (A.G., & Xu, J,2017) which states that BRI will make a loss if the trade cooperation is continued with FTA makers.

The initial idea as a barrier-free trade route was clearly the main goal of BRI development. BRI is different from economic integration such as ASEAN, EU or NAFTA. BRI does not only provide ease of trade through its corridors but also offers investment distribution in the form of infrastructure to facilitate trade. Asian countries are most of which are developing countries and the mainstay commodity is oil and gas. Oil and gas, which is the main focus of BRI integration, make them possible to see the impact of trade by seeing the formation of trade opportunities that are bigger than before. Therefore, the researcher aims to analyse impact of BRI on Indonesia's oil and gas trade and determinant factors in the trade. Particularly this study investigates whether Indonesia gets trade creation or trade diversion from joining BRI.

Literature Review

Based on previous research, many researchers have investigated the effect of economic integration on trade and what factors affect trade in a region using gravity or panel models. In research (Zidi, A., & Dhifallah, S.M,2013), they researched that FTA European and Tunisian industrial areas were able to increase trade exchange by looking at trade creation and trade diversion. Using the gravity model with a panel of 41 countries from 1986-2010 and the result the agreement between Tunisia and Europe, there is no trade creation. The second result shows that the preferential agreement between the two partners results in trade creation import however, there is a trade diversion export.

In (Endoh, M,2010) he looked at trade creation and trade diversion in trade at the European Economic Association to estimate the intensity of trade that occurred. Using a gravity model with a panel of 80 countries for the period 1960- 1994, in terms of trade. The trade creation effects trade diversion of each of the domestic sectors proved to be generally weak during the 1990s. The researcher also observes that each organization has a distinctive international trade character.

Based on (Akhter, N., & Ghani, E,2010) conducted a study to see the benefits of SAFTA in increasing trade through trade creation and trade diversion for Pakistan, India and Sri Lanka. Using a gravity model with panel countries and the second model uses a pooled estimate to view trade flows in 2003-2008. The results show that SAFTA makes trade creations for Pakistan, India and Sri Lanka but makes transfers to other countries outside the agreement.

Another study conducted by (Yang, S., & Zarzoso, I,2014) aims to evaluate the trade agreement between ASEAN and China by looking at their impact through trade creation and trade diversion. This study uses the gravity panel data method for the period 1995 to 2010 with a sample of 31 countries. The results show FTA ASEAN

and China has positive overall especially in agricultural commodities, manufacturing, chemical and transportation machinery.

METHOD

This research used secondary data. The data used are from 2010 to 2020 that comes from 12 countries as the member of BRI and non-member of BRI (Bangladesh, Cambodia, Indonesia, Malaysia, Myanmar, Pakistan, Philippines, Singapore and Thailand). The data obtained from UN COMTRADE, Cepii, and other relevant sources. The focused commodities in this study are oil and gas, the commodities that have high export values for Indonesia and regularly trading in BRI. In this study used a gravity model to analyze the determinants of export for Indonesian oil and gas and using dummy variable for analyze the effect of trade for Indonesia.

The gravity model has been used by researchers for a long time to analyze trade bilaterally between countries of origin and partner countries. This model can explain the factors, potential, trade flows and effects received by the trade agreement taken (Crescimanno, M., Galati, A., & Yahiaoui, D,2013). The gravity model of trade takes the idea from the law of physical gravity called Newton's law. Newton's law states that the relationship between 2 particles is affected by weight and distance. Based on this statement, (Tinbergen, J,1954) introduced a gravity model to analyze trade flows.

This article analyzed the impact and determinants of export for Indonesia oil and gas. The factors are real GDP, distance, exchange rate, commodities price oil and gas and household consumption. In this study, the gravity model is using in a logarithmic natural (Ln) form. So, the estimation using an Ordinary Least Square (OLS) cross-country panel regression with random effect. The specific model is as follow:

$$\ln Xit = \beta 0 + \beta 1 \ln GDPit + \beta 2 \ln RERit - \beta 3 Distit + \beta 4 D\_Tradeit - \beta 5 \ln PCit - \beta 6 \ln PGit + \beta 7 \ln HCit + \varepsilon it \quad (1)$$

Where: Xit is oil and gas value (US$); GDP is real GDP countries (US$); Dist is geogrphical distance (km); RER is exchange rate (Rp/Local Currency); D_Trade is dummy binary to see the impact of BRI; PC is crude price; PG is LNG price and HC is Household consumption (US$).

RESULTS AND DISCUSSION

Indonesia export value of oil and gas for countries member in South and Southeast Asia i.e., Bangladesh, Cambodia, Malaysia, Myanmar, Pakistan, Philippines, Singapore and Thailand. As seen in figure 2, it is showing Indonesia export value dramatically dropped since Indonesia joining Belt Road Initiative in 2013. For the highest export, after entry was in 2014 which reached 2403 billion USD% with imports at 880 billion USD (Kementerian Perdagangan,2021). The revenue comes from trade in South and Southeast Asia, including Bangladesh, the Philippines, Indonesia, Cambodia, Malaysia, Myanmar, Pakistan, Singapore, Thailand and Vietnam. According to research conducted (OECD,2018) countries participating in BRI will experience little loss in the short term because not all countries are connected as one. BRI's weakness for now is poor connectivity for the infrastructure of the MSR and SREB sections. If successful, it will increase trade and ultimately in the long-term connectivity from BRI will be a way to become a trade creation for all its members.

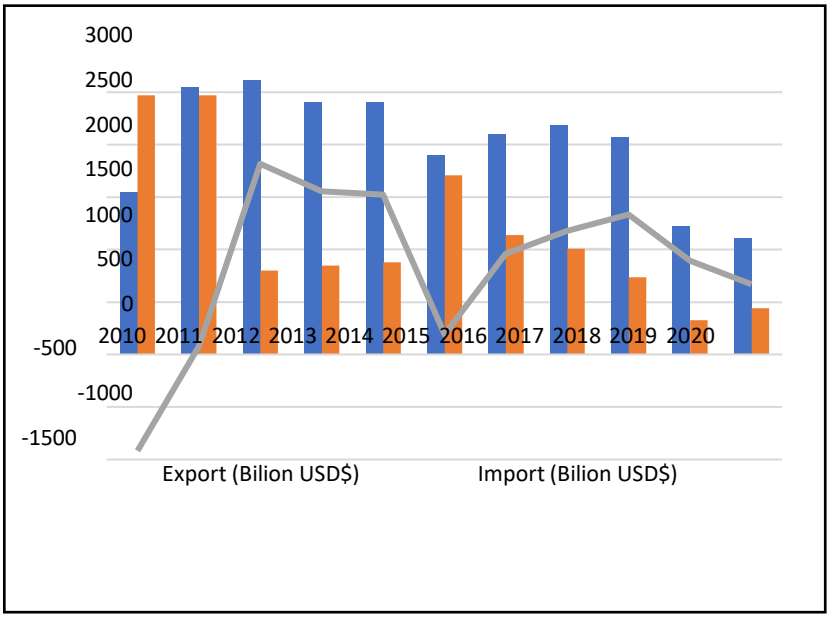

Figure 3. Indonesian Trade Conditions Before and After Joining BRI
Sources: World Trade Integration Solution (2021)

The result of the gravity model to analyze factors contributing to the export value of Indonesian oil gas shows in Table 1 Result perform statistical tests on the model equations using the global / overall significance test (f test), individual significant test (t test) and the coefficient of determination test (R2). The f test is used to test

whether the independent variables used in the study have a significant overall effect on the dependent variable. Based on the test results, the value of Prob > F Statistics is 0.000, it is smaller than the significance level of (alpha = 0.05/5%). Therefore, it can be concluded that the model used by the independent variable has a significant effect on the dependent variable. For the t-test 6, the independent variables have values of 0.000 (ln_gdp), 0.074 (distance), 0.031 (dummy), 0.000 (ln_PC), 0.000 (ln_PG), and 0.000 (ln_kt), so it can be concluded that the independent variable has a significant effect on the variable. dependent. For the R2 test, it shows how much the independent variable in the model is able to explain the dependent variable. The R2 value 0.772 or 77.2 percent in the oil and gas export variable can be explained by the independent variables contained in the model and the remaining 22.8% can be explained by other variables outside the research model.

Table 1. Determinant Factors of Export Value of Indonesian Oil and Gas

Variables	Coefisien	Prob
ln_GDP	1,474	0,000***
ln_RER	0,03	0,778
Distance	-0.39	0,074*
D_Trade	2,294	0,031**
ln_PC	4,691	0,000***
ln_PG	-5,177	0,000***
ln_HC	1,082	0,000***
Konstanta	-38,84	0,000***
Prob>F		0,000
R2		0,772

Note: *,**,*** refers to signifacance testing 1%, 5%, 10% significance level

Trade creation and trade diversion are direct impacts or positive and negative effects of the establishment of a trade cooperation that only occurs in member countries, which in this case is the Belt Road Initiative. Trade creation can occur when consumption shifts from domestic products with high manufacturing costs to imported products with low manufacturing costs (Viner, J,1950). The difference in tariffs applied to a country and a non-member country in a trade area causes a trade diversion which refers to non-optimal trading partners so that low-cost imports must be replaced with high-cost imports. Variable dummy used as a variable that captures the impact of the Belt Road Initiative on the value of Indonesian exports.

Dummy makes it possible to find out whether Indonesia gets trade creation or trade based on a country joining or not in the integration. Based on the estimation results made in this study, the dummy shows a comparison between Indonesia's conditions of trading with member and non-member countries. Based on Table 1 the results of the dummy obtained show a significant difference. If Indonesia joins the BRI integration, it will reduce the value of oil and gas exports by 2 times compared to Indonesia which does not join the BRI integration. Therefore, Indonesia gets a trade diversion because it reduces the value of Indonesia's oil and gas exports and the inability of an economic integration to open new trade routes for its members.

According to (Song, Z., Che, S., & Yang, Y,2018) countries in Asia will receive the impact on trade that occurs in the Belt Road Initiative and Indonesia takes advantage of the use of BRI up to 53.26%. However, the oil and gas sector has not been able to show a positive response to the increase in the value of oil and gas exports. Since joining the Belt Road Initiative in 2013, Indonesia has experienced a decline in the value of exports for oil and gas and tends to stagnate, especially in the South and Southeast Asia region. This is due to the lack of demand by countries that are the main importers of Indonesia's oil and gas commodities.

Based on the results obtained in Table 1 that there are six variables in the model that significantly affect the variable gross domestic product per capita (ln_GDP), economic distance (distance), crude oil commodity prices (ln_PC), lng (ln_PC) and household consumption (ln_hc), while the non-significant influence is the exchange rate variable (ln_RER) with a significance level of 1%, 5% and 10%.

Based on the regression results obtained, the GDP per capita of the destination country has a positive effect on the growth of oil and gas exports in Indonesia. It can be seen from the coefficient value of the ln gdp variable of 1.232, this value means that an increase in the per capita economy in the destination country will increase Indonesia's oil and gas exports by 1.474 percent (cateris paribus). So, this result is in accordance with the researcher's initial hypothesis which states that developments in the economy of the destination country will increase export growth

for Indonesia. The positive sign on the coefficient represents the purchasing power of consumers, the higher the purchasing power of the people. The results of this study are also in line with the results of previous findings which state that the per capita income of trading partner countries shows a positive and positive effect, it will increase exports of the country of origin. The results of this study are in line with research by (Zidi, A., & Dhifallah, S.M,2013), (Endoh, M,2010), (Akhter, N., & Ghani, E,2010), (Yang, S., & Zarzoso, I,2014), (Ritaningsih, T., Hakim, D.B., & Sahara,2013), dan (Saleh, S., & Supriyatno, B,2010).

Indonesia's export growth itself has a significant causal relationship to Indonesia's economic growth. The Ministry of Trade noted that the value of Indonesia's oil and gas exports experienced an increase in oil and gas exports by 41.88% in 2021. The value of oil and gas exports in 2021 was 12.28 billion USD, while in 2020 it was 8.25 billion USD. The increase was also accompanied by an increase in oil and gas imports by 35.59% with the value of oil and gas imports reaching USD 14.26 billion in 2020 and USD 25.53 billion in 2021 (Kementerian Perdagangan,2021). This makes Indonesia's oil and gas trade balance deficit at USD 13.25 billion. The conditions were different in the non-oil and gas sector, where the trade balance experienced a surplus of up to 48.6 billion USD$ with commodities having the highest contribution being mineral fuels (Karemera, D., & Ojah, K,1998) and vegetable fats and oils (Zidi, A., & Dhifallah, S.M,2013) with China as a country that often-traded partners until has a transaction value of 51.11 billion USD (Kementerian Perdagangan,2021).

Cost of transportation in this study is measured by the value of economic distance. Economic distance is one of the important conditions in the gravity model and the magnitude of distance will negatively affect export trade flows. The estimation results obtained by the model show that the distance variable has a significant negative effect of 0.39. The coefficient is negative so that it is in accordance with the hypothesis of this study. Every 1 km increase in distance between countries that trade with each other will reduce the value of oil and gas exports by 39% ceteris paribus. The results of this study are in line with the findings obtained by (Zidi, A., & Dhifallah, S.M,2013), (Endoh, M,2010), (Akhter, N., & Ghani, E,2010), (Yang, S., & Zarzoso, I,2014), (Ritaningsih, T., Hakim, D.B., & Sahara,2013), dan (Saleh, S., & Supriyatno, B,2010). This explains that a negative distance coefficient identifies the wider or farther the distance between trading partner countries, the lower the trade will be.

Based on the regression estimation results obtained, the exchange rate against the currencies of partner countries has an insignificant effect on oil and gas exports of 0.03. A positive coefficient is in contrast to exports. This means that an increase in the real exchange rate will reduce the value of exports by 0.03%, ceteris paribus.

This result is in contrast to (Zidi, A., & Dhifallah, S.M,2013) and (Ritaningsih, T., Hakim, D.B., & Sahara,2013), adding the exchange rate variable as one of the factors that influence trade. If the exchange rate of the destination country appreciates, it will decrease the value of exports and vice versa. When there is depreciation, it will increase the value of exports.

Based on the estimation results, commodity prices have a significant effect on increasing the value of oil and gas exports. This result is in accordance with research by (Karemera, D., & Ojah, K,1998) which shows that commodity prices are a factor that influences trade. In this study, estimates are separated for crude oil and liquid natural gas (LNG) commodities. LNG commodity has a significant negative effect on oil and gas exports by 5.177%. This means that the increase in LNG prices will have a significant effect and reduce the value of Indonesia's oil and gas exports. Any increase in prices will reduce demand from the public, because there is less oil and gas exploration so that it will make the selling price high because it does not achieve low production costs. Crude oil has a significant positive effect on oil and gas exports by 4.691%. This means that an increase in the price of crude oil will increase Indonesia's oil and gas exports. This condition can occur because the cost of oil production is suppressed so that the price of goods becomes relatively competitive with other oil prices and will increase the number of consumers.

Based on the estimation results of research, household consumption will have a significant effect on increasing oil and gas exports. It can be seen from the coefficient value of the variable ln_HC of 1.082, this value means that an increase in consumption of the destination country will increase Indonesia's oil and gas exports by 1.082 percent ceteris paribus. This is in accordance with the initial research hypothesis which states that the development of consumption in the destination country will increase export growth for Indonesia. A positive sign indicates the regional economy, the higher the purchasing power, the higher the increase in oil and gas exports. Additional exports may occur to carry out industrial activities in the destination country. The estimation results in this study are the same as those conducted by (Zidi, A., & Dhifallah, S.M,2013) dan (Ritaningsih, T., Hakim, D.B., & Sahara,2013).

CONCLUSION

Based on the results of the analysis conducted in this study regarding the impact of BRI on Indonesia's oil and gas trade in Asia, it can be concluded as follows:

The influence of BRI's economic integration on the development of investment in Asian countries always provides an increase from the beginning of a country entering BRI integration. The investment is used to support the integration of the Silk Road Economic Belt (SREB) and 21ST Maritime Silk Road (MSR). The form of assistance is in the form of grants or loans to a country and this influence will have both positive and negative impacts on the country. Positive impacts can be felt in the form of significantly increasing GDP, infrastructure development, reducing unemployment and increasing community resource skills through knowledge transfer. The negative impact that must be watched out for is the debt trap that is deliberately given so that the country remains dependent on the investment country.

The impact of BRI in oil and gas for Indonesia is trade diversion. Trade diversion occurs when a country fails to get new trade flows to be able to market a commodity. When Indonesia joins BRI, Indonesia will experience a decrease in the value of exports to BRI member countries in Asia by 2 times over 10 years. This is evidenced by the stagnant export value and tends to experience a decline in the value of Indonesia's oil and gas exports to Asian countries. Indonesia's decision to join BRI is detrimental in terms of oil and gas trade but profitable in investment.

GDP per capita, distance, commodity prices and household consumption have a significant influence on the growth of Indonesia's oil and gas exports. GDP per capita gave a significant positive contribution of 1.474%. Distance has a significant negative impact of 39 units, then for commodity prices it has 2 impacts, for crude oil commodities it will have a positive impact while LNG commodities have a negative impact on the development of Indonesia's oil and gas exports. Meanwhile, household consumption has a positive impact of 1.028% on the development of the value of Indonesia's oil and gas exports.

Based on the conclusions above, the suggestions that can be given to the public, the government related parties in realizing the development of Indonesia's oil and gas exports in the integration of BRI are:

The integration of BRI has proven not to be profitable in terms of Indonesia's oil and gas trade in Asia. It is proven by the export value which tends to stagnate, so the government needs to evaluate Indonesia's joining BRI. The evaluation could be in the form of a comparative study of BRI with ASEAN-SAFTA, because these BRI

members are also registered in ASEAN integration and SAFTA for trade. Increased exploration related to oil and gas in Indonesia needs to be increased, oil and gas production continues to decline resulting in a decline in the value of Indonesia's exports. This is necessary because the price of oil and gas commodities has a significant effect on the value of Indonesia's oil and gas exports.

The integration of BRI in addition to providing ease of trade also provides investment to support the ease of trade. A policy that regulates incoming investment from BRI is needed. The purpose of the policy establishment is so that Indonesia has investment limits so that there is no debt trap due to not being able to provide the promised investment return. Then infrastructure investment is expected to have a positive impact on economic growth so that the investment can be felt by the community.

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The Development of East Natuna Block for Defense's Interest on the Borderline and Securing Indonesia Energy Reserves

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Abstract
East Natuna field deposits a tremendous amount of hydrocarbon reserve potential numbered 46 TCF. The reserve is highly potential to meet Indonesia's future energy demand and is also an asset for national development. On the other hand, there could be a possibility that others also seek these natural resources. Part of the Natuna sea, which holds an extraordinary amount of hydrocarbon, is included in China's nine-dashed line claim of the South China Sea, an area with prolonged conflict. Indonesia's interest in maintaining our sovereignty over resources management on our continental shelf in the Natuna sea, particularly in managing energy resources. To achieve this interest, support for excellent defense capabilities is necessary. This research puts the synergy of energy and defense under scrutiny, exercising the quantitative method while seeking the help of qualitative methodology. Developing oil and gas fields on the borderline requires defense capability support to minimize threats. On the other hand, expenditure for strengthening, operating, and maintaining defense capability is costly. Benefit-cost analysis showed that defense expenditure for Natuna Island is far below the government's potential income from the development of the East Natuna field. This research concludes that Natuna island holds strategic values for politics, economy, and national defense. Energy resources in the Natuna Sea are assets for national development.

Key Words: Energy, Natuna Island, Defense, Sovereignty, National Interest.

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INTRODUCTION

Indonesia is the largest archipelagic country in the world, with more than 17,000 islands stretching from west to east. Indonesia is unique because two-thirds of the area is the ocean, rich in natural resources and energy. One area that is Indonesia's energy barn is Natuna Regency, in the Riau Islands province. Natuna Regency was formed based on Law No. 52 of 1999, the third amendment to Law No. 34 of 2008. Natuna holds large oil and gas reserves. Currently, there are 16 oil and gas blocks in Natuna, five of which are already in production, and 11 others are still in the exploration stage (Safrezi, 2016). Until now, the total gas production in Natuna has reached 490.3 million cubic feet per day, and the entire oil and condensate production is 25,133 barrels per day (Widayati, 2016). Oil reserves in Natuna Regency reached 293.81 million barrels, while natural gas gained 56.3 trillion cubic feet. With an estimated maximum production of 1 trillion cubic feet per year, the reserves' life will reach 50-100 years (Perkasa, 2016). The most considerable resources are in the East Natuna block gas field and are the largest gas reserves in the Asia Pacific (Bappeda Natuna, 2016)

Natuna's position is in the waters of the Pacific Ocean, directly adjacent to the South China Sea. On the one hand, the South China Sea is a disputed area for several countries related to territorial claims or sovereign rights in resource management. The dispute began in 1947 when China made a map claiming most of the territory in the South China Sea. In 1953 China's official map contained nine nine-dash lines in the South China Sea as markers of China's claim to the area (Sugian, 2016). The nine-dash line claims 90 percent of the location of the South China Sea. The thing that China uses as the basis for the claim is the historical reason that the area claimed is a traditional fishing ground for Chinese fishers. Figure 1. shows China's nine-dashed line claim in the South China Sea. In the picture, it is clear that China's nine-dash line claims some of the EEZ area and the Indonesian continental shelf in the Natuna waters. It is estimated that around 30% of the Natuna waters fall into the claim.

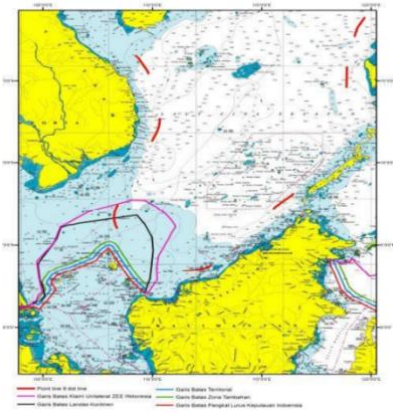

Figure 1. Nine Dashed-Line Claim in the South China Sea

The issue of the nine-dash line claim resurfaced in March 2015 when China included the Natuna Islands in their new passport design. The Indonesian government has protested against China through the Ministry of Foreign Affairs by sending a diplomatic note. In 2016, there were three incidents between Indonesia and China in the Natuna archipelago, between Chinese fishing vessels and the Indonesian Navy. Whenever the Natuna problem arises, China insists it has no sovereignty dispute with Indonesia. But after the third incident in June, China stated that Indonesia and China had overlapping claims in the South China Sea. Former Chief of Staff of the Indonesian Navy, Laks. (Purn) Ahmad Sucipto thinks that with China's statement, Indonesia's foreign policy stance on the South China Sea must be changed, and ownership and rights to the Natuna waters must be maintained. He said one of the instruments could be used to strengthen the army and military fleet there (Hasugian, 2016).

Historical records have shown that energy is a significant factor in conflicts between countries, such as the expansion of the Japanese empire in the 1930s to secure the supply of energy and resources from Southeast Asia. Another example is the Iraqi invasion of Kuwait in 1990, intending to prevent Kuwait from producing oil from the Rumaila field (Zandoli, 2014). Experts assume that China claims most of the South China Sea because of the potential for significant energy reserves. This assumption certainly cannot be ruled out, considering that China is a country with a growing industry. Hence, they need an ample supply of energy to ensure the industry continues to run and the economy continues to grow.

The assumption is supported by data on the amount of energy potential in the South China Sea issued by various institutions. the Energy Information Agency estimates the number of oil reserves in the South China Sea at 11 billion barrels and gas reserves at 190 trillion cubic feet. Energy Consultant Wood Mackenzie estimates there are 2.5 billion oil reserves. Indonesia's defense white paper includes the scarcity of energy sources as a trigger for conflict. Until now, energy needs are still dependent on oil and gas, while the availability of oil and gas is running low because oil and gas is a type of non-renewable energy. This condition makes oil and gas a strategic resource contested between countries. The Natuna waters, included in China's nine-dash line claim, are the location of the largest gas field in the Asia Pacific. In Figure 2, it is clear that China's claims in the South China Sea are in places with potential hydrocarbon reserves in the form of oil and gas. The declaration covers almost all areas that have oil and gas reserves. This fact reinforces the assumption that the background of China's claim to the South China Sea is the potential for energy reserves.

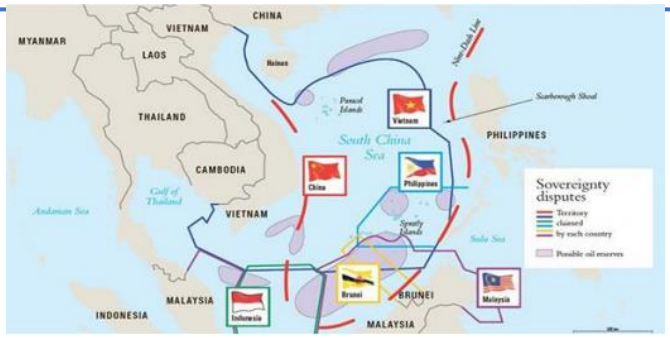

Figure 2. China's nine-dash line claim in the South China Sea and the potential location of oil reserves

Indonesia's energy needs will be very high. The condition of energy security has a significant influence on the state of national security because energy security is part of economic resilience, which is one of the pillars of national security. The relationship between energy security and national security can be seen in the following figure:

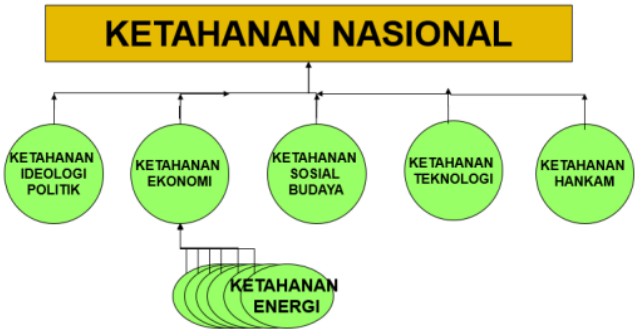

Figure 3. The relationship of energy security and national security

The picture above shows that energy security is a sub-section of national security under the pillar of economic resilience. However, in essence, energy security does affect not only financial strength but also other pillars of national security, namely the stability of political ideology, socio-cultural resilience, technological resilience, and security defense resilience.

Until now, some of the energy needs are still met by oil, while gas utilization is only 20 percent of the total. On the other hand, Indonesia's oil reserves continue to decline. The large gas reserves in Natuna are vital assets not only for the economy but also for the defense and security of Indonesia. The development of the Natuna region, especially the eastern part of Natuna, is a perfect option to meet domestic gas demand and is in line with Indonesia's vision of energy independence, as stated in PP 79/2014 on National Energy Policy. Without an increase in production, it is estimated that in 2021 Indonesia will become a net importer of gas. According to Agustiawan (2016), energy management has two goals. First, for welfare and

security-defense. As a commodity, energy is indispensable for economic activities and people's interests. On the other hand, defense and security operations are needed to maintain the smooth supply of energy, especially in border areas rich in energy resources.

Based on the 1982 United Nations Law of the Sea Convention, Indonesia has sovereign rights in Natuna to exploit and utilize the resources there. So on this basis, Indonesia must defend the Natuna waters and build a defense force. There is something that must be done. On the other hand, making a defense force in Natuna is intended as a deterrent effect so that resource utilization activities are not disturbed by other countries. Natuna not only has abundant energy resources, but geographically Natuna's position is very strategic. Since Natuna is the only Indonesian island on the path of Asian transportation routes, sea and air routes from Southeast Asia, South Asia, Arabia, and Africa. to Central Asia, East Asia, Pacific, and America or vice versa.

The operational development of defense forces requires high costs and energy supply. The Indonesian nation will suffer a considerable loss if the government makes the wrong decision regarding Natuna resources. Considering the various things mentioned above, for reasons of national defense and economic growth, the development of the Natuna block is interesting to study. This paper has a research question: How is the contribution of the development of the East Natuna block in strengthening energy security, as well as Indonesia's national development capital?

METHOD

Research Design

The primary approach in this research is a quantitative approach which is supported by a qualitative approach to sharpening the analysis of the problems studied. The integration of the characteristics of qualitative and quantitative methods aims to obtain a comprehensive and better understanding when compared to using only one method. Research designs like this allow researchers to collect data in all ways without being limited to one style. Research begins by focusing on a phenomenon that is the object of study or elaborating a theory by identifying indicators and variables in it and explaining the relationship between variables.

In carrying out research, there is a philosophical foundation called Creswell as a worldview, which is a fundamental tool that guides action in an examination. Four worldviews commonly underlie research: post-positivism, constructivism, transformative, and pragmatism. The worldview in research that combines

quantitative and qualitative approaches is pragmatism. The main characteristic is that the research emphasis lies on the research problem rather than the method used, thus enabling researchers to use various techniques to solve problems (Creswell, 2014). Social research should focus on the research problem and use a plural method to gain knowledge about the problem under study (Morgan, Patton, Tashakkori, Teddlie in Creswell, 2014).

The integration of quantitative and qualitative approaches was chosen because in researching the development of the East Natuna block for the benefit of border defense and securing Indonesia's energy reserves, researchers did not only process textual data but also numerically. Numerical data processing is to determine the economic value of the block, while textual data is to understand the history of the development of the East Natuna block and the condition of the defense forces there. By using worldview pragmatism, the emphasis of this research is on the problem being studied rather than the method used to solve the problem so that researchers will be more flexible in integrating various research approaches to obtain comprehensive research results.

Object of Research

The object of this research is the synergy between energy and defense. An example of the case raised is the potential contribution of the East Natuna block gas field in the Natuna Islands to maintain Indonesia's long-term gas supply and support the development of defense forces in the Natuna Islands. Defense development is aimed at anticipating various military and non-military threats, guarding borders as well as energy resources. Geographically, the East Natuna Block is directly adjacent to the South China Sea, which is an area of prolonged conflict. The Natuna Islands are not the only border areas rich in energy resource reserves. Other border areas with a wealth of energy resources are Ambala, Nunukan, and Masela. The East Natuna Block was chosen as the object of research because the amount of hydrocarbon gas reserves in the block is believed to be the largest in the Asia Pacific, and the a high potential threat from conflict in the South China Sea.

Data Collection Technique

The data in this study are divided into two, namely numerical data and textual data. The data collection process can be done simultaneously (sequentially) or separately (concurrently). The researcher's way to obtain data in this research is by studying documents obtained from institutions responsible for oil and gas exploration cooperation, companies operating in the Natuna Islands, and defense-security institutions, as well as conducting interviews with several experts in the field of

defense and energy. The interview model used is semi-structured interviewing with open-ended questions. Ritchie and Lewis (2003) explain that semi-structured interviewing is an interview that begins by asking the same questions to the informants, then elaborates to obtain knowledge/information following the expertise of the informants that are relevant to the research topic.

Data Analysis Techniques

The data analysis technique used in this research is a sequential transformative strategy. This analysis technique gives an equal portion to integrating quantitative and qualitative data. Numerical data will be processed to determine the project's economics through a benefit-cost analysis. The results obtained will be used as the basis for a breakdown of how the development activities of the East Natuna block support national defense at the border. Textual data and interview results will be interpreted and guided by the theoretical framework used in the study.

RESULTS AND DISCUSSION

Research data

Research data were collected through literature study and interviews. The literature study was mainly carried out to obtain data on the planning for the development of the East Natuna block, to understand the management history, the obstacles in developing the field, and the current status of the field development plan. The literature study results were then confirmed by interviewing sources that directly handled the development of the East Natuna Block, namely Pertamina, SKK Migas, and KEN. To gain an understanding of the defense and security situation in the Natuna region, policies and planning for the development of defense forces in the Natuna Islands, as well as an estimate of the budget for this purpose, interviews were conducted within the Ministry of Defense at the Directorate of Defense Policy and Strategy, the Directorate of Defense Areas, and, the Directorate of Planning. Defense Development.

East Natuna Block Profile

Oil and gas exploration and exploitation activities in the Natuna Regency area began in the 1970s. In 2001, Natuna Regency was designated as an oil and gas producing area (Bappeda Natuna, 2016). Oil and gas exploitation and exploration activities in Natuna are located in the western and eastern regions. However, the

development of oil and gas working areas in western Natuna is more advanced than in eastern Natuna. In contrast, the development of this work area is significant to increasing national oil and gas reserves to maintain the availability of long-term oil and gas supplies.

KEN (2016) identified problems in the development of the eastern Natuna region, namely:

1. The absence of infrastructure that integrates fields in the eastern Natuna region. Limited buyers of gas that will be produced by fields located in the eastern part of Natuna.

2. The East Natuna area development plan is not mutually integrated between the fields and blocks located in the area.

3. It takes a very high cost to develop the eastern part of Natuna.

4. High CO2 content in some structures

5. New markets that are still not available (just thinking about the connection

to West Natuna)

East Natuna Block Cooperation Contract

Pertamina and ExxonMobil have collaborated for over two decades to develop the East Natuna block technically and commercially. However, to this day, the East Natuna block has not yet been developed. Based on the records of the Director General of Upstream Oil and Gas ESDM, since 2005, there has been no upstream activity carried out in the block. The East Natuna Block production sharing contract was signed on January 8, 1980, between Pertamina and ESSO (ExxonMobil), with a contract period of 30 years from the date the contract was approved. The contract will terminate automatically if six years after the contractor's effective date and Pertamina does not conduct an economic feasibility study or declare a commitment to develop the Navy structure. Pertamina and ESSO can request an extension of up to four years from the end of the sixth year of the contract to conduct a feasibility study (Pertamina and ESSO PSC contract documents, 1980).

ESSO is obliged to pay Pertamina a total of three million dollars for information held by Pertamina regarding the East Natuna block. As of thirty days after the first shipment of gas from this block, ESSO pays Pertamina a total of five million dollars. Once the daily production reaches 50 thousand barrels or the average gas sales for 120 days is 200 MMCF, ESSO must pay 15 million dollars to Pertamina. If the

production reaches 100 thousand barrels or the average gas sales for 120 days is 400 MMCF. ESSO must pay 30 million dollars to Pertamina (Pertamina and ESSO PSC contract documents, 1980).

In 1995, the PSC contract was adjusted through a basic agreement for technical reasons, namely the high CO2 content in the gas (more than 70%), making it challenging to develop and market it. The contract will expire on January 9, 2005, if the contractor does not deliver on its commitment to developing the Navy structure. Based on the explanation of Priyono (2007), the agreed terms and conditions for the adjustment of the PSC contract in 1995 were: the profit sharing between the government and the contractor was 0: 100, from the PSC contract, the government only got a share of the income tax of 35%, production bonuses and first tranche sales according to the agreed amount.

The participating interest under the 1980 contract is 50:50 for Pertamina and ESSO. In 1996, Pertamina's ownership of 26% was transferred to Mobil Oil, then Exxon Corporation International and Mobil Oil Corporation merged to become ExxonMobil, resulting in 24% ownership being Pertamina and 76% ExxonMobil (Priyono, 2007). The government stated that ExxonMobil's contract in Natuna expired in January 2005 (termination) because ExxonMobil did not propose a field development program. ExxonMobil denies this because they have submitted a commitment to developing the Navy structure (katadata.co.id).

East Natuna Block Development Challenge

Pertamina (2016) identified the challenges in developing the East Natuna Block, namely:

1. CO2 separation technology is still expensive, so block development becomes uneconomical.

2. Only 28% of raw gas production can be marketed.

3. Requires a particular area to store CO2.

4. Drilling includes production wells and CO2 reinjection wells.

5. Special processing for the world's most significant volume CO2 separation.

6. The location of the gas field is offshore and far from consumer markets.

Since planning the development of the East Natuna field, Pertamina has collaborated with ExxonMobil as a potential partner. ExxonMobil's success in

commercializing the LaBarge field in 1986 indicates that technological developments have allowed gas fields with high CO2 levels to be developed. ExxonMobil claims the processing technology for CO2 separation that they have developed, namely CFZTM, can separate CO2 and other contaminants in one step without using solvents or absorbents (Burgers et al. 2011). Based on this, ExxonMobil's participation in the consortium is hoped to answer the technological challenges in developing the East Natuna gas field.

For the treatment of separated CO2, reinjection is not the only option, but there are other alternatives. The CO2 gas can be used in the EOR process to increase production in aging oil wells. The oil and gas industry in Indonesia is relatively well established, starting in the decade of the 1850s. Currently, there are many old oil wells in Indonesia whose production continues to decline. The use of CO2 - in EOR can increase production by about 8% - 11% (Burgers et al. 2011). The CO2 separated from the gas from the East Natuna block can be used for EOR purposes to maintain the amount of production in the oil fields.

Another thing of concern in the development of the East Natuna block is the unavailability of a market for the gas produced by this block. Geographically, the East Natuna block is located in the middle of the sea, far from areas with high gas demand, namely the islands of Java and Sumatra. For more details, see the picture on the side. For the domestic market, the distance from the east Natuna block to Jakarta is 1,340 km, to Batam as far as 880 km, and to Natuna Island as far as 225 km. while the market export potential, the closest distance to Malaysia is 450 Km.

To answer this challenge, KEN recommends the use of the East Natuna block gas primarily for domestic needs, especially as fuel for power plants in West Kalimantan and as raw material for the petrochemical industry. If gas production exceeds the projected domestic demand, the excess can be exported to Malaysia, Singapore, Thailand, and Vietnam, considered potential markets. Another thing that can be pursued so that the gas production of the East Natuna block can be optimally absorbed for domestic purposes is to spur the growth of the petrochemical industry around the Natuna Islands or West Kalimantan.

Next, the challenge in developing this block is the lack of infrastructure that integrates the East Natuna block with other blocks and the infrastructure to connect the East Natuna area with West Natuna. The East Natuna Block is located in the middle of the sea, and the construction of infrastructure to connect this block with the existing infrastructure will increase the investment value so that the development cost will be more expensive. However, this is necessary so that the gas production of the East Natuna block can be utilized optimally.

East Natuna Block Development Scenario

The development of the East Natuna block is integrated with the development of other blocks in the eastern part of the Natuna working area. In 2016, KEN compiled at least three scenarios for developing the East Natuna working area. The KEN scenario emphasizes the absorption of gas production from the East Natuna block for domestic purposes, namely for power plants in West Kalimantan, the petrochemical industry, and the fishing industry. This is in line with the plan to develop the Natuna Islands as one of the Special Economic Zones and is expected to be able to develop the potential of the fishing industry there, which has not been adequately exploited. Excess gas production will be channeled to supply gas to the island of Sumatra via Batam by utilizing the WNTS network, sent to Java, or exported as LNG. The WNTS network is a gas pipeline network of more than 600 km, with an average diameter of 28 inches. The network is used to transport gas from three working areas in the Natuna Islands, namely Block A, Block B, and Kakap, to Singapore. The plan is to develop the WNTS pipeline network by connecting to Batam Island (premier-oil.com).

The infrastructure development planned for the development of the eastern Natuna working area is the construction of an offshore platform, CO2 separation facilities including reinjection wells, LNG facilities, and construction of gas pipelines to flow production from the eastern Natuna work area to the WNTS gas pipeline in western Natuna.

Onshore scenario

In scenario 1, all oil and gas activities are concentrated on Natuna island. Processing facilities will be built at Ranai, including an onshore LNG facility. Prior to distribution, all production of oil and gas blocks in the eastern Natuna working area is distributed to Ranai. Especially for the production of the East Natuna block, before being distributed to Ranai, the CO2 separation is carried out in the offshore facility to be built in the East Natuna block. The products that have been collected in Ranai are then distributed. Part of it is channeled to West Kalimantan as fuel for power plants, and part of it is sold through two mechanisms: first, through existing pipelines in western Natuna, and secondly, it is shipped for export.

Scenario 2 is almost the same as scenario 1. The difference is that before being distributed to Ranai Island, it is sent to an offshore processing facility in the East Natuna block. After being processed at an offshore facility in the East Natuna block, the gas is routed to Ranai to be processed into LNG and distributed. The main objective of this scenario is to reduce the cost of building infrastructure blocks in the East Natuna working area.

Offshore scenario

The difference in scenario three from the other two scenarios is that the LNG facility is located offshore in the East Natuna block. The production results are processed and processed into LNG at an offshore facility in the East Natuna block. LNG can be shipped directly from this facility or flown to Ranai for later distribution.

The East Natuna Block is believed to be the largest gas field in the Asia Pacific region. Apart from the high CO2 content of gas in this block, with an estimated gas reserve of 46 TCF and hydrocarbons in the form of oil of 500 MMBOE, this block is quite promising for development. Assuming Indonesia's oil price in the 2017 State Budget is US$ 45 per barrel, gas price is US$ 9.5 / MMBTU, and an exchange rate of 1 US$ = Rp. 13,300, then a rough estimate of the economic value of this block is Rp. 6.990 trillion. Although economically and technologically, the development of the East Natuna block is a high risk, the successful development of the LaBarge field is proof that technologically the development of the East Natuna block is possible. Referring to a rough estimate of the economic value of the block, the East Natuna block is feasible to be developed.

The Urgency of the Development of the East Natuna Block

The East Natuna Block is the largest gas field in Indonesia and is located in the border area, precisely on the continental shelf of Natuna waters. Techno-economically, the East Natuna block is still very risky to be developed, but this is not solely a consideration in developing the East Natuna block. Another perspective that needs to be considered is that the development of the East Natuna block is a form of state sovereignty in the border area and evidence of the state's presence in the foremost region.

The Natuna Islands are at the forefront of the Indonesian border region and have large reserves of natural resources, both energy resources, marine resources, and tourism potential. These potentials give the Natuna Islands an essential meaning in terms of politics, economy, and defense, so that cultivating and utilizing natural resources there is not only seen from an economic and technological point of view, including the development of the East Natuna block.

Believed to be the largest gas block in the Asia Pacific, which is located on the border of the country, the development of the East Natuna block should not only be based on economic and technological studies but also on the strategic significance of the Natuna Islands for Indonesia and the multiplier effect that will be obtained. Based on economic calculations on pages 87 and 88, state revenues from the development of the East Natuna block are relatively small. However, there are intangible things

from the development of the block, such as increasing economic activity in the Natuna Islands region, strengthening defense, and messages conveyed to the international community that the Indonesian government pays attention to the outer islands.

Historical records show that the need for energy has been the background of conflicts between countries. The scarcity or condition of the energy crisis can lead to armed conflict. Examples are the Japanese invasion to secure the supply of energy and natural resources from Southeast Asia in the 1930s and the Iraqi invasion of Kuwait in 1990 to secure oil reserves in the Rumaila field. States act because of the growing importance of energy in national security and the increasing costs of obtaining the resource. Indonesia cannot turn a blind eye to the possibility of energy resource reserves in the East Natuna Block being targeted by other countries. From the picture on page 6, it is clear that China's nine dashed-line claims in the South China Sea cover almost all of the oil and gas fields in the area.

To maintain its economic growth, China requires significant energy sources, especially oil. Domestic production can no longer meet energy needs, so these needs are met from sources outside China. Geographically, China's closest areas with large hydrocarbon reserves are the South China Sea and the East China Sea. Controlling oil in this area is a strategic matter to minimize disruption to China's oil and gas supply in the future. China has the military resources and capabilities to do just that. In 2010, the Chinese government claimed a veto over oil and gas activities in the waters of the South China Sea. The East Natuna Block is included in China's nine-dashed line claim in the South China Sea, so the development of the East Natuna block in the Indonesian continental shelf is a state practice of Indonesia's sovereign right to manage and utilize the potential of natural resources on the continental shelf, as regulated by UNCLOS 1982. The development of the block can also be interpreted as a way for the government to protect Indonesia's sovereignty and sovereign rights from all forms of interference and threats.

The development of the East Natuna block is an affirmation of the state's presence in the outermost areas and a manifestation of the government's commitment to positioning the outermost island as a front porch, not a backyard. The development of the East Natuna block will benefit the local community. Jobs will be available, and infrastructure development will be carried out in line with the interests of the development of the block. In turn, economic activity is expected to increase so that people's living standards will improve along with increasing income. The development of the block is expected to trigger the growth of other industries in Natuna, such as the heavy equipment maintenance industry, the fishing industry, and the tourism industry. It is even possible for the Natuna Islands to become a

shipping hub in the South China Sea region, given the position of the Natuna Islands in a busy international shipping lane.

Data Discussion

The Strategic Meaning of the Natuna Islands for Indonesia

The Natuna Islands have an essential meaning in maintaining the territorial integrity of the Republic of Indonesia. Directly adjacent to an area that is prone to conflict and contains a large number of natural resources, from a political, economic, and defense point of view, the Natuna Islands are of strategic value. As an archipelagic country, the basis for determining territorial boundaries, continental shelf boundaries, and Indonesia's EEZ is the position of the outermost islands. The Natuna Islands are the outermost islands in northern Indonesia, so the determination of territorial boundaries, continental shelves, and EEZs with neighboring countries such as Singapore, Malaysia, the Philippines, and Vietnam is based on the position of the outermost islands in the island group in the Natuna Islands.

Based on Article 77 of UNCLOS 1982, the coastal state has sovereign rights over the natural resources found on the seabed and subsoil, including oil and gas and hard minerals. This right is the exclusive right of the coastal state, in the sense that if the state does not explore or exploit natural resources on the continental shelf, then no other country can do so without the permission of the coastal state. In the EEZ, the coastal state has sovereign and exclusive rights to utilize natural resources for economic purposes and to produce energy from water, ocean waves, and wind. Coastal states also have the right to research and conserve the marine environment within their EEZ. This is stated in Article 56 of UNCLOS 1982.

These exclusive rights are closely related to a country's economic interests and scientific research. Marine and germplasm research conducted in the waters of the Natuna Islands will contribute significantly to the development of Indonesian science. Natuna waters are fishery pockets whose potential has not been fully exploited. Indonesia has the right to exploit the potential of these natural resources up to the continental shelf and EEZ. On the other hand, the hydrocarbon reserves contained in the Natuna waters are substantial. Natural resources in the Natuna Islands are the capital of Indonesia's development.

Development of the East Natuna Block for Indonesia's Energy Security

Energy security in Indonesia is based on the 4A 1S concept. The term is translated into availability (availability), accessibility (access to available energy sources), affordability (users' purchasing power for available energy), acceptability (acceptance of a type of energy), and sustainability (sustainable). These indicators are then used as the basis for measuring the condition of a country's energy security.

Availability indicators measure energy availability within a certain period, both short-term and long-term energy availability. The need for energy increases in line with projected economic growth, especially for fossil energy types in the form of oil, gas, and coal. Based on the IEA estimates quoted by Batubara et al. (2014), the average world gas demand increases by 1.6% per year. In 2013 world gas demand was 3.4 TCM and is expected to increase to 5 TCM in 2035, with the highest demand coming from China (6.6%) and Asia (4.4%). As for Indonesia itself, it is estimated that gas demand during the period 2014-2025 will increase by 4.7% to 5.2% per year (BPPT, 2016)

Four sectors are the primary consumers of gas in Indonesia: industry, transportation, power generation, commercial, and household. Sequentially, the most significant growth in natural gas utilization was in the commercial sector at 6.1% per year, followed by the transportation sector (5.9%), industry (5.2%), power generation (3.9%), and households (0,9%). Meanwhile, the industrial sector uses natural gas the most, which accounts for 43% of the total gas utilization. This figure is predicted to increase to 65% in 2050 (BPPT, 2016). The Ministry of Energy and Mineral Resources (2014) noted that since 2003 the average demand for gas has increased by 9% per year, and since 2013 the volume of gas to meet domestic needs has been greater than exports.

East Natuna Gas as National Development Capital

Referring to the concept of national power from Morgenthau, ownership of natural resources is one of the capital to ensure a country's sustainability (existence). It determines the country's position on the world political stage. Morgenthau specifically stated that energy resources are vital natural resources for a country. Ownership of energy resources affects the bargaining position in international politics because energy resources are significant for industry and defense. Ownership of energy resources supported by military preparedness will increase a country's bargaining position, thus helping to achieve the country's interests on the

international political stage. The success of managing these resources will increase the power possessed by a country.

Development is a vital national goal. Development is aimed at the greatest prosperity of the people. Development is carried out in all fields, namely economic development, human resource development, defense development, and socio-cultural development. The principal capital of development is Indonesia's wealth of natural resources, as mandated by Article 33, paragraph 3 of the 1945 Constitution. Development often begins with economic development aimed at reducing poverty levels. Mc Kinsey estimates that by 2030 Indonesia will become the seventh economic power in the world, surpassing Germany and the UK. To achieve this, of course, it is necessary to support the guarantee of energy availability which is the backbone of the economy.

Energy availability is a national interest that must be fulfilled to realize Indonesia's prediction of becoming one of the world's economic powers in 2030. In a narrow sense, national interest is defined as the basic things of a state to survive, and in a broader sense, it is defined as the strength of a state. The national interest is achieved through policy instruments. The policy of managing energy reserves, which are strategic natural resources, dramatically determines the achievement of national interests in energy availability to ensure the passage of national development. On the other hand, the success of a country in managing its natural resources, especially energy resources, will increase its bargaining power on the international political stage.

By the inward-looking principle adopted by the Indonesian people, the achievement of national interests is prioritized from the utilization and management of national power, one of which is energy resources. In line with this, energy is no longer seen as an economic commodity but as national development capital. If energy resources are managed solely based on economic profit and loss, in a more extensive scope, it will hinder development. Therefore, the management of energy resources, especially fossil energy, must consider things outside of economic calculations, which can be a driving force for national development.

Contribution of the Development of the East Natuna Block to Defense Development in the Natuna Islands

National defense is all efforts to defend the sovereignty, territorial integrity, and safety of the entire nation from threats and disturbances to the integrity of the nation and state. The development of defense forces in a country cannot be separated from the development of the strategic environment and the increasing

threat escalation, both military threats, non-military threats, and hybrid threats. The defense of border areas is an effort to realize the existence of a country marked by the protection of sovereignty, population, and territory from various threats.

Strength development in the Natuna Islands aims to anticipate the escalation of military and non-military threats. The military threat to be wary of is the overlapping claims of countries in the South China Sea that have the potential to become a military conflict. The non-military threat is the theft of natural wealth in Natuna waters, both marine natural wealth and energy resources. The state border in the Natuna Islands is a sea border that is very vulnerable to various conflicts because of the many interests of the state at sea, especially economic interests related to exploration and utilizing natural resource wealth. The importance of developing defense forces in the Natuna Islands is to maintain territorial integrity while at the same time protecting the natural resources contained there, especially hydrocarbon reserves.

From the defense aspect, the availability of energy dramatically affects the country's defense capability. The study of energy security begins with a policy study on meeting the supply of fuel for military fuel needs. In a narrow sense, *energy security* is defined as a guarantee of the availability of energy as fuel for defense equipment so that in conditions of crisis, the military can continue to carry out their duties of securing the country from attacks or assisting in overcoming natural disasters. To minimize defense and security disturbances, especially in border areas, the energy needs of defense equipment must be met so that patrols can be carried out regularly and consistently. Operational defense equipment requires high costs and a large volume of energy. The availability of energy directly affects the country's ability to maintain security and defense forces.

The development of the East Natuna block can contribute to the development of defense in the Natuna Islands, both in the form of funds and energy availability. The development of defense forces in the Natuna Islands requires enormous costs, both in terms of procurement as well as maintenance and operations. Data from the Ministry of Defense shows that the estimated funding requirement for constructing the Natuna Islands military base reaches 3.7 trillion or equivalent to US$ 280 million. This requirement does not include operating costs. Based on the economic calculations on pages 87 and 88, the amount needed to build a defense force in the Natuna Islands is much smaller than the government's potential revenue if the East Natuna block develops. Funding to build the base can be taken from government revenue based on economic calculations, namely income in the form of taxes. Another funding option is income devoted to a defense based on modified economic calculations. Funds for defense are drawn from after-tax income while maintaining a minimum IRR of 12.5%.

Risk Estimation of Indonesia's Losses if the East Natuna Block Development Policy is Not Appropriate

The estimation of the risk of loss that Indonesia will bear if the policy of developing the East Natuna block is not correct is not only measured by economic risk but also from other dimensions of risk, namely political risk and defense security risk. There are two ways to analyze risk, namely quantitative analysis, and qualitative analysis. Quantitative analysis is used for things that can be calculated mathematically, while qualitative analysis is used for things that cannot be calculated mathematically. Qualitative analysis is usually carried out to set priorities in risk management planning.

The risk that can be calculated mathematically is the economic risk in the form of loss of potential government revenue from the development of the block, which ranges from US$ 10.29 billion – US$ 15.62 billion. Then, regional development and economic development in the Natuna Islands are hampered. Based on its position, the Natuna Islands have the potential to become the center of the economy in northern Indonesia, as a center for shipping, trade, marine industry, heavy equipment maintenance industry, and oil and gas industry. The development of this area means potential revenue for the government. However, if not developed, then the potential income will be lost. In order for this potential to be maximally developed, it is necessary to encourage the development of the region.

Risks that cannot be calculated mathematically, such as the magnitude of the threat to the area being claimed by foreigners, are due to the absence of state practice that confirms Indonesia's ownership and sovereign rights over the area. The existence of a nine-dashed line claim by China increases the urgency of developing this field. The defense risk that may arise is the vulnerability of defense at the border with the South China Sea due to operational cost support or inadequate energy availability. Then the risk of waning the sense of nationalism of the people in the Natuna Islands will directly impact the defense's weakening there. The vulnerability of defense at the border, both military and non-military, can potentially increase the threat to the territorial integrity of the Republic of Indonesia.

CONCLUSION

Indonesia has at least three interests in the South China Sea, namely: survival interests in the form of sovereignty and sovereign rights; main attractions in the form of ensuring maritime security, the safety of navigation, from threats of violence and law violations, transnational crimes, and environmental protection; and interests of territorial integrity, regional stability, and economy. This paper has conclusions: First, Indonesia is predicted to become the 7th economic power in the world by 2030, surpassing Germany and the UK. To achieve this, it is necessary to guarantee the availability of energy which is the backbone of the economy. The development of the East Natuna block will increase the guarantee of Indonesia's gas availability in the future. Based on the projected gas demand and availability until 2040, the gas deficit will continue to grow starting in 2020, from 700 MMSCFD that year to around 5000 MMSCFD in 2040. The gas production of the East Natuna block can reduce the gas deficit by 20%. Second, the development of the East Natuna block is a national development capital. The East Natuna block gas production is used for domestic purposes. Part of the gas production in East Natuna is planned for power generation in West Kalimantan and as raw material for the fertilizer and petrochemical industries. The guarantee of the availability of electrical energy will positively impact the people in West Kalimantan, namely by improving the quality of education, improving the quality of health, and entering investment expected to increase local economic activity. So that, in turn, people's living standards will improve. The development of the East Natuna block will trigger the growth of other industries in the area, such as the petrochemical industry, industry, fisheries, heavy equipment maintenance service industry, and others.

Third, the East Natuna Block is economically feasible to develop with a minimum IRR of 12.5%. The economic calculation for scenario 1 results in an IRR of 13.05 percent, government revenues of US$ 14.29 billion, and contractor profits of US$ 8.04 billion. The economic analysis of scenario 2 results in an IRR of 14.63%, government revenues of US$ 10.29 billion, and contractor profits of US$ 12.05 billion. Financial calculations include defense share, and scenario 1 produces an IRR of 12.58%, total government revenue of US$ 15.62 billion, divided into US$ 14.29 billion from taxes and US$ 1.33. billion for defense, and contractor profits of US$ 6.72 billion. Fourth, the contractor in the development of the East Natuna block is Pertamina, Indonesia's largest oil and gas SOE, so part of the contractor's profits will return to the state through Pertamina. In turn, it will increase state revenue from the development activities of the East Natuna block. Fifth, the development of strength in the Natuna Islands aims to anticipate the escalation of military and non-military threats. The military threat to be wary of is the overlapping claims of countries in the South China Sea that have the potential to

become a military conflict. The non-military threat is the theft of natural wealth in Natuna waters, both marine natural wealth and energy resources. The development of the East Natuna block can contribute to the development of defense in the Natuna Islands, both in the form of funds and energy availability. The construction of defense forces in the Natuna Islands requires high costs.

Sixth, if the funds to build defense needs are taken from government revenues in the form of taxes, then the funds needed to build military bases are only 2.72% of the government's lowest income scenario, which is US$ 10.29 billion. Operational and maintenance funds will be budgeted annually based on the needs of the TNI Headquarters and each dimension. If taken from the defense share income scenario, the need for military base construction is 21% of the most minor defense share income scenario. Seventh, energy availability is a national interest that must be fulfilled. Countries that can optimize their domestic energy potential will not be too affected if global geopolitical dynamics are unfavorable, such as a war or an embargo. Optimizing domestic energy sources to meet Indonesia's energy needs will make Indonesia an energy-independent and sovereign country so that Indonesia's energy security condition will be good. Eighth, Indonesia's success in managing resources at the border, especially energy resources, will increase Indonesia's power and bargaining position on the international political stage. Activities carried out in the outermost regions send a message to the international community that Indonesia pays attention to every inch of its territory. Hopefully, this action will minimize territorial claims and border conflicts with neighboring countries. The management of the East Natuna oil and gas field is a form of state practice on Indonesia's sovereignty to manage and utilize natural resources in the EEZ area and continental shelf, including energy resources.

Ninth, the management of the oil and gas fields in eastern Natuna, which are designated as capital for national development and the development of defense forces in the Natuna Islands, is following the inward-looking principle adopted by Indonesia. Namely, the achievement of national interests is prioritized from the utilization and management of national power, in line with Article 33 of the 1945 Constitution. The development of defense forces is directed at increasing the country's defense capabilities in facing increasingly complex and diverse threats, based on the universal defense doctrine, which empowers all national resources and infrastructure for defense efforts. Tenth, the risk of loss that Indonesia will bear if the policy of developing the East Natuna Block is not right is not only economical but also a political risk and national defense. The economic risk is the loss of potential government revenue, which ranges from US$ 10.29 billion to US$ 15.62 billion, and delays in regional and economic development in the Natuna Islands. The political risk is in the form of the threat of the territory being claimed by

foreigners because of the absence of state practice that confirms Indonesia's ownership and sovereign rights over the area.

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Iran's Multilateral Diplomacy on The International Atomic Energy Agency (IAEA) Related to The Development of Nuclear Energy 2009-2015

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Abstract
Since the Islamic revolution of Iran in 1979, the United States and its allies don't like Iran's nuclear program and aim to manufacture nuclear weapons and assumed that Iran's nuclear has violated the NPT treaty. Over time Iran sanctions in the form of a resolution by the UN Security Council due to the allegations provided by the United States and its allies. To maintain and acquire nuclear development rights, the Iranian government conducts diplomacy with the IAEA as an international atomic agency. This research explains influential factors in multilateral diplomacy success by Iran on IAEA related to nuclear energy development during 2009-2015 using the concept of multilateral diplomacy by Ronald A. Walker. The method used is qualitative method with descriptive analysis and data collection techniques are the study of literature. Iran is considered successful multilateral diplomacy through the formation of a collective agreement in the form of a comprehensive Joint Plan of Action (JCPOA) in 2015 in Vienna. The Iranian government has been actively disseminating information related to nuclear development, as well as adhering to the multilateral treaty that has been ratified as the NPT safeguards agreement and additional protocol. the Iranian government actively negotiated since 2009 to send a delegation to the various meetings.
Key Words: a nuclear Iran, IAEA, international pressure, multilateral diplomacy

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INTRODUCTION

The International Atomic Energy Agency (IAEA) is an international atomic agency that specifically deals with countries in the world that are developing the nuclear sector. The IAEA was formed in 1957 and is a government agency under the auspices of the United Nations (United Nations). That year, the IAEA comprised 56 countries, one of which was Iran. The state of Iran officially joined and became a member of the IAEA in 1957 (IAEA, 2016). The IAEA contributes to promoting world peace, maintaining world security, preventing the spread of nuclear weapons, and supporting and assisting the development of nuclear technology for civilian purposes (Karyono, 2005). In carrying out its functions, the IAEA should control nuclear-armed countries. This aims to ensure that the development of nuclear technology is carried out safely and does not lead to the development of nuclear weapons. Therefore, the IAEA has the right to examine the effect of nuclear technology carried out by IAEA member countries (IAEA, 2016).

Even though the IAEA is an international organization, the influence of superpower countries remains the dominant factor in the actions taken by the IAEA. Countries that are very influential on IAEA policies are the United States, Russia, China, Britain, France, and Germany, also known as 5+1. The 5+1 country is a significant player in the IAEA. The United States, as part of the 5+1, is a country that strongly disagrees with Iran's nuclear development efforts, and even the United States is firmly against the continuation of Iran's nuclear development process. The United States has taken various measures to stop Iran's nuclear technology development. The United States uses the IAEA to carry out its intention to stop Iran's nuclear. It is proven that the United States has encouraged the IAEA to carry out scanning monitoring by conducting a scheme against Iran's nuclear installations to develop nuclear weapons (Jamaan, 2007). Iran's efforts to get approval for nuclear development are through the IAEA and to IAEA member countries.

Iran is one of the countries that has long been in developing nuclear energy. Iran's nuclear development efforts began during the reign of Shah Pahlavi. During the reign of Shah Pahlavi, nuclear research and development began in Iran with the help of the United States. Shah Pahlavi purchased a research reactor with a power of 5 watts from the United States in the 1960s. The efforts made by the government were considered successful by the government of Shah Pahlavi, so in 1972 he was very interested and enthusiastic to continue to increase nuclear development efforts. The result of this effort was the establishment of the Atomic Energy Organization of Iran (AEOI) in 1974 (Khan, 2010). Iran's nuclear development process was

carried out at the University of Tehran, which was directly under the supervision of Shah Pahlavi.

In 1968, Shah Pahlevi signed the Non-Proliferation Treaty (NPT) and ratified it in 1970 (Khan, 2010). The treaty's contents follow what was agreed upon by the nuclear-developing countries, namely the right for Iran to develop, research, produce, and use nuclear weapons for peaceful purposes without discrimination. The wheels of government during the time of Shah Pahlavi were more pro-Western, so the pace of development of Iran's nuclear energy ran quite rapidly.

Iran's Islamic Revolution in 1979, led by Ayatollah Ruhollah Khomeini, became the main cause of the end of cooperation between the United States and Iran (Bruno, 2010). The Iranian revolution also made relations between Iran and several other countries strained. This is one of the causes of the distrust of the United States and its allies in Iran's nuclear development, so the United States cut off the uranium supply to the Tehran research center (Kibaroglu, 2006). Iran became the focus of the United States in the Middle East after the end of the Shah Pahlavi government in 1979. The Iranian Islamic revolution led by Khomeini would hinder the interests of the United States in the region. The Islamic Revolution of Iran was the beginning of the release of the Islamic Republic of Iran from Western control led by the United States (Yazdani and Hussein, 2006).

Iran's nuclear program has been a controversial issue in international politics since August 2002, when the construction of Iran's secret uranium enrichment facility at Natanz was discovered. Knowing this, the United States stated that Iran had a personal plan to exploit its nuclear capabilities to develop nuclear weapons (Kibaroglu, 2006).

Iran's nuclear development program is opposed by major countries in the world, which is promoted by the United States and Israel (Kibaroglu, 2006). Iran's nuclear program threatens Israel, the only non-Muslim country in the Middle East. Israel's position will be increasingly threatened if there is another country with a large enough military power, especially if it has the potential for nuclear power. The United States certainly will not remain silent if the position of its ally, Israel, feels threatened by Iran's nuclear existence. The United States alleges that Iran has violated Article II of the NPT treaty. Iran, as a Non-Nuclear Weapon States (NNWS), is suspected of developing nuclear weapons; meanwhile, based on Article II of the NNWS NPT treaty, it is prohibited to develop nuclear weapons. Therefore, the United States seeks to use its influence in international politics which wants Iran's

nuclear to be one of the main agendas for the IAEA Chair, who will later be reported to the United Nations for punishment for violating the NPT treaty.

Ahmadinejad's government is a new phase in Iran's nuclear development. The lack of an entire nuclear program during the Khatami administration made Ahmadinejad continue Iran's nuclear development. In his state address on April 9, 2006, Ahmadinejad said that Iran's nuclear development program had been reactivated since the vacuum of President Muhammad Khatami (Hamzah and Kazhim, 2007). Ahmadinejad's desire is also supported by the ups and downs of the global economy, so every country is trying to develop renewable energy to spur the growth of its domestic economy. Developing nuclear technology is one of the efforts made by countries worldwide, including Iran.

Ahmadinejad is very ambitious to improve his country's capabilities among the countries in the world through nuclear technology. The utilization of human resources and natural resources is the main factor determining the success of Iran's nuclear program. Ahmadinejad himself did not close himself to cooperation with other countries. Ahmadinejad said he would always lend a hand to everyone and still try to establish good relations with anyone except Israel (Gogary, 2007).

The United States and its allies are increasingly concerned about Iran's uranium enrichment program. These concerns were heightened by launching a condemnation of Iran. The criticism began when there were suspicions that the reason for Iran's nuclear development was an attempt to cover up its nuclear weapons development program (Alhadar, 2007). The United States and its ally Israel claim that Iran's need for nuclear technology is not too much. So that Iran does not need to carry out a nuclear enrichment program.

The concerns of the United States and its allies were seen when they brought the issue to the United Nations Security Council (UNSC), which consists of permanent members, and more than half of them are countries that strongly condemn Iran's nuclear development, namely the United States, Britain, and France. Iran's nuclear development has long been one of the main agendas for the IAEA, but the IAEA's position does not have the same power as that of the Security Council, so the IAEA cannot impose sanctions on Iran. Thanks to the insistence of the United States and its allies, the UN Security Council imposed sanctions on Iran's nuclear development through several resolutions, including resolution 1737 (imposing economic and commercial sanctions in the form of freezing of 10 important entities related to nuclear and ballistic programs) in 2006, resolution 1747 (freezing assets of 13 new entities linked to Iran's nuclear program or Revolutionary Guards. There are also

sanctions embargoes on arms purchases and restrictions on loans to Iran) of 2007, resolution 1803 (banning entities and individuals with asset freezes and travel bans) of 2008, and resolution 1929 (placed new restrictions on Iranian investment and prohibited sales to Iran of certain heavy weapons (tanks, warplanes, and helicopters) in 2010 (Faiz, 2007).

In 2009, Iran approached the IAEA by sending a letter containing information that Iran wanted to increase uranium enrichment to 5%. Until 2010 Iran did not stop to fight for its nuclear development rights. Iran continues to approach the UN Security Council member states. Ahmadinejad, in his speech at the UN general assembly, stated that Iran's nuclear power is for civilian purposes. He also said that Iran is willing to hold peace talks with Vienna and 5+1 group countries, namely the United States, Britain, China, France, Russia, and Germany. The Iranian Foreign Minister, Manouchehr Mottaki, also said when meeting with Chinese Foreign Minister Yang Jiechi in New York, "The talks will be successful if they are fair and understand Iran's right to nuclear possession for peaceful purposes and the availability of energy." BUMN Watch, 2010).

Ahmadinejad, whom Hassan Rouhani succeeded in 2013, is trying to get Iran to get approval for the use of nuclear energy. Iran conducts diplomacy with the IAEA and IAEA member countries to get nuclear support, especially with member countries of the UN Security Council. Iran is trying to get its right to develop nuclear. The beginning of the success of Iran's diplomacy was when Iran's negotiators proved that Iran's nuclear program is for peaceful purposes and stated that Tehran has no ambition to produce nuclear weapons (Irib, 2015). Iran's success stems from the Geneva agreement on November 24, 2013. Geneva removed international sanctions in the economic, political, and legal fields against Iran. But Iran's nuclear development has not reached a mutual agreement and will be discussed at a meeting in Vienna.

The meeting in Vienna resulted in the Vienna agreement being the result of Iran's diplomatic struggle. The deal was successfully reached on July 14, 2015, between Iran and 5+1 countries, namely the United States, Britain, China, Russia, France, and Germany (Irib, 2015). The Vienna agreement resulted in an agreement on the Joint Comprehensive Plan of Action (JCPOA), namely the recognition of world powers on the nuclear rights of the Iranian nation (Irib, 2015). Under the Vienna agreement, none of Iran's nuclear installations were suspended. All Iranian nuclear installation activity continues, including in the Natanz and Fordow areas. The JCPOA guarantees the continuation of the Uranium enrichment program in Iran.

Hassan Rouhani's government has succeeded in continuing the struggle for Iran's nuclear diplomacy that has been carried out since the Ahmadinejad administration.

Based on the dynamics of the Iranian government's struggle to convince the international community about its nuclear development, as well as accusations and pressures made by the United States and its allies through the IAEA to stop the action being carried out. Thus, the researcher is interested in seeing the diplomacy carried out by Iran to the IAEA to get approval for the use of nuclear energy. This paper has a research question, namely Why is Iran considered successful in conducting multilateral diplomacy against the IAEA related to the development of nuclear power for the 2009-2015 period?

METHOD

In this research, the authors used qualitative methods using data collected from various means. Qualitative research seeks to build honesty and understand that reality, so this research is very concerned about processes, events, and authenticity (Deddy, 2001). This study focuses on the diplomacy carried out by the Iranian government with the IAEA to obtain nuclear development approval for the 2009-2015 period. Taken in 2009-2015 because 2009 was the second period of the Ahmadinejad government which attempted to resolve the Iranian nuclear issue through diplomacy, and 2015 was the end of Iran's nuclear diplomacy struggle, namely with the agreement of a joint agreement in Vienna, Austria.

In data collection, the technique that the researcher uses is library research, namely the method of collecting data by examining several kinds of literature related to the problem under study through books, journals, documents, magazines and articles, electronic media, and searching for information via the internet (Ikbar, 2012). The data obtained from various sources will be translated into units and then arranged into a pattern to choose which is the most important and can help answer the existing problems. The data analysis process is carried out through three stages, namely (1) the data reduction process, (2) the data presentation process, and (3) the conclusion and verification process.

RESULT AND DISCUSSION

Dynamics of Iran and IAEA Nuclear Development

This chapter discusses the dynamics of Iran and Iran's nuclear development. In the beginning, we will discuss the dynamics of relations between Iran and the IAEA since Iran joined the IAEA and signed the NPT treaty. Then proceed with a discussion of the dynamics of Iran's nuclear development in two periods, namely before the Iranian Islamic revolution and after the Iranian Islamic revolution.

IAEA Profile

The IAEA (International Atomic Energy Agency) is an international atomic agency that specifically deals with countries in the world that are developing the nuclear sector. The IAEA was formed in 1957 and is a government agency under the auspices of the United Nations (United Nations). The IAEA contributes to campaigning for world peace, maintaining world security, preventing the spread of nuclear weapons, and supporting and assisting the development of nuclear technology for civilian purposes (HS Karyono, 2005). In carrying out its functions, the IAEA should control nuclear-armed countries. This aims to ensure that the development of nuclear technology is carried out safely and does not lead to the development of nuclear weapons. Therefore, the IAEA has the right to examine the development of nuclear technology carried out by IAEA member countries.

Karyono further explained the three pillars of the framework contained in the IAEA, which are as follows:

a. Conduct peace efforts and verification by conducting direct inspections of nuclear installations of member countries under a legal agreement between the IAEA and these member countries. These efforts aim to ensure peaceful nuclear development activities.
b. Maintain security and safety by setting security standards, codes, guidelines, and assistants to member countries that develop nuclear technology.
c. Assist in the development of nuclear technology for peaceful purposes, research technology, and science, such as nuclear for health, agriculture, energy, environmental and other civil purposes.

Based on the three pillars above, the IAEA has the right and obligation to inspect and monitor nuclear-armed countries. However, in carrying out its duties, the IAEA is only given the right to examine countries that have entered into agreements with

the IAEA. The IAEA does not have rights over countries that do not enter into agreements with the IAEA, such as Israel and several other countries.

Dynamics of Relations between Iran and the IAEA

The state of Iran officially joined and became a member of the IAEA in 1957. That year was the initial year of the formation of the IAEA, which at that time consisted of 56 countries (IAEA, Member State). President Shah Pahlevi signed a safeguard agreement in 1974 (Michael Adler). After the Iranian Islamic revolution, for about 20 years Iran continued its nuclear development program in secret without informing the IAEA of any of its activities. This continued until Iran's nuclear facilities at Natanz and Arak were notified in late 2002 (Kelsey Davenport, 2015). The Natanz nuclear facility is for uranium enrichment and the Arak facility is for heavy water production (Michael Adler).

The announcement of Iran's nuclear facilities in Natanz and Arak was the beginning of Iran's nuclear program becoming a controversial issue in international politics (Kibaroglu, 207). This is due to the absence of reports from Iran regarding its nuclear development program to the IAEA. So that Iran's nuclear development is suspected of the manufacture of nuclear weapons by the United States and its allies.

To ensure Iran's nuclear development program, the IAEA led by Mohamad El Baradei visited Iran to directly review Iran's nuclear program. During the visit, the IAEA stated that Iran was considered to have failed in carrying out security agreements related to its nuclear program. The failure was related to several things, namely the concealment of information related to the design of buildings and construction of newly built Iranian facilities and the absence of reports related to processing and importing uranium to the IAEA (Mousavi, MA. 2010). During the visit, the IAEA Board of Governors asked Iran to name all materials and facilities related to its uranium enrichment program and asked Iran to be willing to be inspected by the IAEA. Iran was also asked to sign an additional protocol related to the safeguard agreement. The IAEA gave a deadline of 31 October 2003 to meet with the IAEA regarding the request made by the IAEA (Kelsey, 50).

The Iranian government agreed to hold a meeting with the IAEA on October 21, 2003, and signed an additional protocol related to the safeguard agreement on December 31, 2003. Since the signing of the additional protocol, several nuclear facilities have been under the protection of the IAEA. A few months after the signing, on June 18, 2004, the IAEA stated that Iran failed to cooperate with IAEA inspectors who exercise control over Iran's nuclear facilities. However, the Iranian

government promised to immediately conduct a report related to its uranium enrichment program.

On September 24, 2005, the IAEA Executive Board found Iran's non-compliance with the NPT because it was considered a failure and violated its obligations to comply with the NPT safeguard agreement, namely hiding various strategic nuclear works. The council gave Iran time to answer important IAEA questions and asked key scientists to be available for interviews. It also asked Iran to stop enriching uranium (Michael Adler). However, Iran continues to enrich uranium, and the Board of Governors decided to submit the Iran nuclear case to the UN Security Council in 2006. Until 2006 the IAEA had issued nine resolutions related to the Iranian nuclear case before being submitted to the UN Security Council (IAEA, IAEA Resolutions, 2014).

The dynamics of Iran's nuclear development

The Dynamics of Iran's Nuclear Development Before the Islamic Revolution (1974-1979)

Iran's nuclear program began in the late 1950s during the reign of Reza Pahlevi (Henderson, Simon. 2015). At that time President Pahlavi saw that the country's need for energy availability was very large along with the rapid population growth. Therefore the Iranian government decided to develop nuclear energy because nuclear is considered cheaper and more effective.

Iran's nuclear program began when President Pahlavi was interested in developing Iran's nuclear capabilities, friendly Pahlavi's relations with the United States had paved the way for Iran to develop a nuclear program. The United States as a part of the Atom for Peace Program ensures Iran does not develop nuclear weapons. Iran and the United States signed a nuclear cooperation agreement in 1957 following the Pahlavi commitment not to develop nuclear weapons (Saira, 47).

After signing a cooperation agreement with Iran, in 1960 the United States supplied Iran by bringing in a small-scale research reactor of 5 MW and research labor needs. Then a nuclear commission board called the Tehran Nuclear Research Center (TNRC) was formed in 1967 (London: Routledge, 2005). In 1968 Iran signed the NPT treaty and ratified it in 1970 after it was approved by the Majlis. The treaty guarantees Iran's right to develop research, produce and use nuclear weapons for peaceful purposes without discrimination (Saira, 48).

As one of the IAEA member countries that have ratified the NPT treaty, in 1974 Iran agreed to a safeguard agreement with the IAEA in which Iran gave space to the IAEA to conduct inspections of all nuclear materials owned by Iran. The agreement is an effort for the IAEA to ensure that Iran's nuclear development activities are peaceful (Iran's Strategic Weapons Programs). In 1974 the Iranian government established the Atomic Energy Organization of Iran (AEOI).

The establishment of the AEOI aims to realize the Iranian government's plan to produce 23,000 MW of nuclear energy over the next 20 years and establish a uranium enrichment facility to make fuel that is used as a domestic energy supply. The Iranian government agreed with Germany, France, and the United States to realize its nuclear development plan. Iran acquired 22 reactors to generate 23,000 MW of electricity. The West wants to help Iran in developing its nuclear program, the West's desire is supported by the belief that Iran has never had the ambition to create nuclear weapons.

Iran's nuclear development program began with the construction of an atomic power plant. The atomic power plant was built in cooperation with other Iranians and foreign contractors, including the construction of the Bushehr (Iran I and II), Isfahan (Iran V and VI), and Saveh (Iran VII and VIII) atomic power plants by Germany and Karun atomic power (Iran III and VI) by France (Labib, Muhsin. 2007) At that time, the Iranian government also cooperated with France in the construction of reactors in Ahwaz, Darkhoin and several other Iranian regions. Iran also signed contracts for 10 years which could later be extended with the United States, France, and Germany in 1974-1976.

The projects built during the reign of Shah Pahlavi were carried out for various purposes, including power generation, research needs, and others. The project cost about US$ 30 billion (Rahman, Musthafa Abd. 2003). To improve the capacity of its human resources, the Iranian government sends scientists, experts, and nuclear technicians to several nuclear research institutes and universities in the United States, Britain, France, Germany, Canada, Belgium, and Italy. The United States is a very pro-Iranian government, and even supports all its programs and policies, including policies to develop Iran's nuclear capabilities. This can be seen from the support and assistance provided by the United States in the construction of nuclear reactors, research, experts, and technicians, including the supply of uranium (Ansari, 2008).

In 1974 the United States and Iran signed an agreement aimed at supplying Iran with enriched uranium for approximately 10 years. The aim of the aid from the

United States is to diversify the electricity supply in Iran and get Iran to agree to export more petroleum abroad.

In 1975 the United States became suspicious of Iran's growing nuclear program massively. The suspicion arose when the United States considered that Iran's nuclear development program had two objectives, namely for the needs of civil society and military needs (Saira, 48). For two decades Iran's nuclear development has been the talk of the international community for its desire to enrich uranium. Iran's nuclear development program since its inception has been a serious consideration for several nuclear-developing countries. In early 1975, Iran had problems with the United States over where to process plutonium. The Iranian government insists that it be carried out in Tehran, while the United States must not do it in Tehran (Iran's Strategic Weapons Programs). In 1976 Iran declared its seriousness in improving its uranium enrichment technology. As a testament to this seriousness, the Iranian government increased the budget for the AEOI which was initially US$ 30.8 million in 1975, an increase of more than US$ 1 billion in the 1976 fiscal year (Saira, 48). In 1976, Iran's nuclear development was assisted by South Africa, which contributed to the implementation of Iran's nuclear program of US$ 700 million on the condition that Iran would finance uranium enrichment in South Africa (Leonard, 1990). In the late 1970s, the United States government received information stating that Shah Pahlevi had embezzled the nuclear weapons development program (Leonard, 1987). there is. This shows the high desire and ambition of Shah Pahlavi in increasing Iran's domestic nuclear capabilities.

Shah Pahlavi's contribution to Iran's nuclear development program was enormous. We can see this contribution to Iran's current nuclear development capabilities. The purpose of procuring Iran's nuclear program is very simple, namely the desire of Shah Pahlavi to make Iran an economic power in the region. The progress of Iran's nuclear development program was influenced by the involvement of the United States in its implementation and also the closeness of Shah Pahlavi with the United States. The involvement and interference of the United States are not only in the nuclear program as well but also in the political sector. Thus causing Iran's dependence on the United States and Western countries (Ali, 81).

Dependence on the United States and Western countries triggered the Iranian Islamic revolution in 1979 and led to the fall of Shah Pahlavi from the position of President of Iran (Satori, 2012). The Iranian Islamic Revolution was led by Ayatollah Ruhollah Khomeini, the Islamic revolution became the main cause of the end of cooperation between the United States and Iran (Bruno, Greg. 2010).

Dynamics of Iran's Nuclear Development After the Islamic Revolution (1979-2015)

Iran's Islamic Revolution led by Ayatollah Ruhollah Khomeini in 1979 stopped all nuclear development activities in Iran. In the mid-1980s Tehran decided to revive its nuclear development program (Simon, vii). However, in this development, the Iranian government encountered obstacles, namely the absence of assistance from abroad such as the United States. Iran's Islamic Revolution is one of the causes of distrust of the United States and its allies in Iran's nuclear development. So that the United States cut off the supply of uranium to the Tehran research center (Kibaroglu, Mustafa. 2006) The United States also hindered Iran's efforts to continue its nuclear program by stopping Iran's cooperation with several Western countries, namely Germany, Brazil, Argentina, and Spain (Simon, vii).

The distrust of the United States and its allies such as Germany and France has halted the construction of Iran's nuclear reactors. Two reactors that had been built by Iran in cooperation with Germany in the city of Bushehr also stopped (Musthafa, 203-204). Since then Iran's nuclear development program has stalled. This includes reactor construction, uranium supply, cooperation, and foreign aid (Simanjuntak, 2007). This condition was exacerbated by as many as 3700 of the 4500 AEOI scientists leaving Iran (Solingen, 2007).

In 1984 Ayatollah Khomeini, who was the president of Iran at that time, expressed his desire to continue the development of the nuclear program which had been stalled since the Islamic Revolution of Iran. Even without the help of the United States and its allies, Khomeei sought international assistance to complete the construction of a nuclear reactor at Bushehr (IISS, 2005).

Iran's Islamic Revolution is the beginning of Iran's enthusiasm to continue its nuclear development. This is due to the need for technology and nuclear energy. Iran develops its nuclear power by exploiting the capabilities of its nation's children. In March 1986 the Iranian government invited its nuclear scientists who were abroad to attend a conference held in the city of Bushehr (Musthafa, 204).

In the late 1980s and early 1990s, the Iranian government refocused on its nuclear development. Iran actively seeks international assistance and cooperation. At that time Iran was led by Ali Akbar Hashemi Rafsanjani who replaced Ayatollah Khomeini. Rafsanjani's reign lasted for two periods (1989-1997) indicating the government's desire to continue Iran's nuclear program.

From 1980 to 1983 Iran had asked India for help to continue the development of the Bushehr nuclear reactor that Germany had abandoned. In 1986 Iran also discussed the possible involvement of Argentina, Germany, and Spain in assisting the completion of the project (D. Danny, 40). Then in 1987 Iran and Pakistan signed a long-term nuclear cooperation agreement. The agreement states that Pakistan is willing to assist and train Iranian nuclear technicians (Cirincione, 2005).

The Iranian government's efforts in nuclear development continued in cooperation with China in the early 1990s. China agrees and undertakes to cooperate with Iran in training Iranian nuclear technicians. China is also willing to provide 27-kilowatt miniature neutron reactors and two Qinshan reactor plants with a capacity of 300 megawatts. As a form of its seriousness in supporting Iran's nuclear program, China sent 1,800 grams of several types of uranium to Iran in 1991. Uranium is useful in the process of enriching nuclear materials (D. Danny, 41). China also assisted Iran in exploring uranium mines from 1993-1994 through the Beijing Research Institute of Uranium Geology (RIUG) (Suhaimi. 2004).

After cooperating with China, the Iranian government also signed an economic relations agreement with Russia in 1991. The agreement stated that Russia would help Iran's two nuclear reactors, each with a power of 440 megawatts (Musthafa, 205). The agreement continued with the signing of a nuclear cooperation agreement to continue the construction of the Bushehr reactor in August 1992 which was then realized in January 1995 (IISS, 13). Russia agreed to continue the development of the Bushehr nuclear reactor and also offered research related to the development of nuclear technology (Smith, 1995). Furthermore, in 1996 Iran and Russia again carried out continued cooperation on the development of nuclear technology. Iran continues to build four active nuclear reactors that will be used specifically for uranium and plutonium development, namely the Bushehr, Natanz, Arak, and Isfahan reactors, and three nuclear reactors used for nuclear technology research, namely the nuclear reactors in the cities of Tehran, Yazd and Kharaj (Musthafa, 166).

The International World Pressure on Iran's Nuclear Development

This chapter discusses international pressure on Iran's nuclear development efforts. The pressure came from various parties, namely the United States and its allies, the IAEA, and the UN Security Council. In the beginning, we will discuss the pressure exerted by the United States and its allies, where the United States has been actively applying pressure since the Iranian Islamic revolution in 1979. Furthermore, the

IAEA's pressure on Iran's nuclear program went through several resolutions, until finally, the IAEA handed over the Iranian nuclear case to the Security Council. UN. At the end of the chapter, we will discuss the pressures given by the UN Security Council in the form of resolutions given from 2006 to 2010.

The United States and Allied pressure

Iran's nuclear development program continues to be carried out and enhanced by the Iranian government in several research centers. The rapid development of Iran's technology has forced the United States to press and take repressive steps with its allies (Labib et al, 189). This condition emerged after Iran's Islamic revolution in 1979. Before Iran's Islamic revolution, the United States and its allies fully supported Iran's nuclear development (Simanjuntak, 2007). However, after the Islamic revolution in Iran, there was anxiety for the United States and its allies about Iran's nuclear program, because it was suspected that Iran's nuclear development program led to the manufacture of nuclear weapons (Jamaican, 44). Therefore, the United States and its allies decided that Iran's nuclear development should be stopped.

After the Iranian Islamic revolution, the United States and its allies were always looking for ways to prevent the influence of the revolution. Among the deterrence made by the United States and its allies is Iran's isolation in the international sphere. The exclusion was caused by the United States disapproval of Iran's nuclear weapons program (Muthafa A. Rahman. 154). One of the exclusions of Iran carried out by the United States is through international conference forums such as the Sharm El Sheikh Summit in Egypt, the G7 Summit in Lyon, and the G7 Summit in Paris.

Economic and financial sector: Banking (On November 6, 2008, Ministry of Finance prohibits United States banks from transacting directly with Iranian banks), Asset Freezing (Executive Order 13224 (2001) authorizes the President of the United States to freeze the assets of entities supporting international terrorism and prohibits transactions with such entities), Investment and trading (Executive Order 12959 (1995) prohibits US companies from trading and investing in Iran, except for food and medical products). Gas and oil sector: Purchasing crude oil (Executive Order 12613 (1987) prohibiting US companies from importing Iranian oil), Petroleum refining.

Iran's Multilateral Diplomacy Against IAEA Related to The Development Of Nuclear Energy, The Period of 2009-2015

The number of pressures and international sanctions against Iran's nuclear technology development program has made the Iranian government seek to eliminate these pressures and sanctions and gain international recognition. The Iranian government is trying to recognize these rights through multilateral diplomacy. The analytical framework used is the concept of multilateral diplomacy proposed by Ronald A. Walker. According to Ronald A. Walker, four things influence the success of multilateral diplomacy, namely information, multilateral agreements, negotiations, and delegation.

Information

Multilateral diplomacy is the most effective mechanism for disseminating information. Information is the most decisive way for people to express what they think and do, including those in government. The information is the socialization process carried out by a government to inform the public or the international community (Ronald A. Walker, 23).

The Iranian government has been actively providing information regarding its nuclear development program, both in terms of facilities and capacity. Information is supplied by the Iranian government in several ways, namely through official state websites, including TRR and government websites, through Iranian media, reports on the results of IAEA inspections, and direct submissions of the Iranian delegation in conducting multilateral diplomacy.

Multilateral Agreement

Multilateral agreements are reciprocal commitments in which each party seeks to carry out specific actions in a predetermined agreement. Multilateral agreements are in the form of efforts to behave following predetermined ways; contracts in multilateral diplomacy are joint efforts between all parties where each party will carry out its obligations. International agreements are self-fulfilling as long as one party sees the benefits for the other party (Ronald, 24).

The Iranian government, through multilateral agreements, seeks to obtain recognition and rights related to the development of nuclear energy, which has been going on for quite a long time, namely since the reign of Shah Pahlavi, as discussed

in Chapter II above. The multilateral agreements that underlie the agreement regarding the recognition of Iran's nuclear rights reviewed in this thesis are the NPT treaty, the IAEA safeguard agreement, and the IAEA additional protocols.

Negotiation

Negotiation is a process in which various parties interact to influence the other party's decisions in a meeting. It can be concluded that negotiation is a process of bargaining to reach a mutual agreement between one party and another. In multilateral diplomacy, countries and organizations unite to decide on an important issue.

In general, negotiation is defined as a process by which offers are conveyed to reach an agreement on the exchange or realization of common interests where a conflict of interest arises. The elements that initiate a negotiation are shared interests and issues of contention.

Delegation

Delegates are people with the authority and responsibility sent by the government to represent their country in conveying the interests of their country. According to the Big Indonesian Dictionary, delegation is defined as a person appointed and sent by an association or state in a negotiation (deliberation). Ronald A. Walker says in his book that delegations have a considerable influence on the success of multilateral diplomacy carried out. Delegates sent by a country will bring and convey the interests of the country they represent.

Eight delegates participated in the negotiations in resolving the Iran nuclear case, seven people representing their respective countries and one other being an envoy from the European Union. The names of the delegations were Mohammad Javad Zarif (Iran's Foreign Minister), Guido Westerwelle (German Foreign Minister), Wang Yi (Chinese Foreign Minister), and Laurent Fabius (French Foreign Minister), William Hague (Foreign Secretary). British Affairs), John Kerry (US Secretary of State), Sergey Lavrov (Russian Foreign Minister), and Catherine Ashton (EU representative). The ability of delegates in a negotiation cannot be separated from the individual character of the delegation itself.

CONCLUSION

Iran is one of the most nuclear-developing countries. Iran's nuclear technology development program has become an international issue and is under pressure from the international community. The pressure comes from the United States and its allies, the IAEA and the UN Security Council. To respond to international pressure, the Iranian government is trying to eliminate and remove sanctions imposed on Iran. These efforts were carried out by Iran through multilateral diplomacy with the IAEA and 5+1 countries as IAEA representatives.

The multilateral diplomacy carried out by Iran against the IAEA was considered successful because it was able to remove all sanctions on Iran and resulted in a joint agreement recognizing Iran's nuclear development rights in the form of the JCPOA. The success of Iran's multilateral diplomacy cannot be separated from four influential factors, according to Ronald A. Walker, information, multilateral agreements, negotiations, and delegations.

The Iranian government has been active in disseminating information regarding the development of its nuclear technology. The information was disseminated through the official websites of the government and Iran's national atomic agency reports on the results of IAEA inspections and the media in Iran. The information disseminated is a form of transparency and dissemination of Iran's nuclear development program to the international community, so that Iran gets recognition and rights for its nuclear development, and denies accusations of making nuclear weapons as alleged by the United States and its allies. In addition to actively disseminating information on its nuclear developments, the Iranian government also uses multilateral agreements as an instrument to expedite the diplomatic process carried out. The multilateral agreement is a form of Iran's commitment to developing nuclear technology for peaceful purposes. The multilateral agreements that form the basis of the agreement on the recognition of Iran's nuclear development rights are the NPT Treaty, the Safeguard Agreement, and the IAEA Additional Protocol.

The next influential factor is negotiations, the Iranian government has been actively negotiating with the IAEA and 5+1 countries that are representatives of the IAEA. Since 2009 Iran has submitted a negotiation proposal to 5+1 countries, the proposal is a further negotiation proposal from a proposal that has been submitted since 2003. Negotiations on Iran's nuclear case began when Iran submitted a proposal to 5+1 countries which were directly supervised by the IAEA as an agency. international atom. Negotiations conducted by Iran with 5+1 countries ended with

an agreement in the form of the JPOA on November 24, 2013, in Geneva, Switzerland. The agreement contains the removal of economic, legal, and other sanctions against Iran, and further negotiations regarding the Iranian nuclear case will be carried out. In July 2015 Iran with 5+1 countries resulted in a joint agreement in the form of the JCPOA. The JCPOA was motivated by the JPOA agreed in Geneva.

The last influential factor in Iran's nuclear diplomacy is delegation. Delegates are representatives of countries sent to carry out diplomacy, where they are tasked with conveying the interests of their countries in the meeting. Delegates greatly affect the success of diplomacy, this is due to their existence as actors who act directly in the meeting. The delegation's ability to convey the interests of their country and act in the meeting is greatly influenced by the educational background and attitude of the delegation. Regarding the Iran nuclear case, the delegations sent by each country are people who are already involved in international politics. They are the Minister of Foreign Affairs in their country.

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Accomplishment of Danish International Development Agency (DANIDA) on Actualizing Energy Democracy in Central Java with Environmental Support Programme Phase-3 (ESP-3) Program

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Abstract
This research analyses the energy democracy in Central Java conducted by the Danish International Development Agency (DANIDA) in the Environmental Support Programme Phase 3 (ESP-3) scheme. This research aims to explain DANIDA's effort to actualize energy democracy through the outcome of a clean energy management project in Central Java within four chosen regions, i. e. Semarang City, Cilacap Regency, Klaten Regency, and Karimunjawa Islands. In order to analyse this problem, the writer used energy democracy as an effort to achieve equity in energy access. Qualitative methods are used in this research, emphasizing the use of secondary data, including earlier research, official documents, and related archives, using primary data from interviews with related informants. This research shows that DANIDA can actualize energy democracy in Central Java, manifesting Denmark's commitment to global environmental problem mitigation. Two indicators of energy democracy, such as popular sovereignty and participatory governance, proved from local community satisfaction response by local government involvement and the increase of energy supply which fulfilled the needs. The third indicator, civic ownership, including ownership of access, was not seen clearly; however, the local community acquires access availability. Those indicators,

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therefore, become the benchmark of DANIDA's accomplishment of energy democracy in Central Java.

Key Words: DANIDA, Central Java, ESP-3, Energy Democracy

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INTRODUCTION

As part of the Nordic region, which is famous for its technological advances, Denmark is one of the countries that actively promotes the use of environmentally friendly energy. Advanced technology, well-organized energy policies, and a commitment to environmentally friendly energy policies have made Denmark almost no significant energy problem, despite the energy crisis that has occurred several times in the world (Parajuli, 2012). In promoting environmentally friendly energy in the world, Denmark cooperates with other countries, including Indonesia.

In 2005, Denmark and Indonesia agreed to cooperate in the environmental sector. Denmark, which in this collaboration was represented by the Danish International Development Agency (DANIDA), and Indonesia, represented by several ministries and local governments, created a program called the Environmental Support Program (ESP) which aims to support the implementation of sustainable development in Indonesia. ESP has reached the third stage (ESP-3) by emphasizing three components: the environment, energy, and forests (Sirait, 2018). One of the projects under ESP-3 was carried out in Central Java. The ESP-3 project in Central Java is carried out in four areas, namely Semarang, Cilacap, Klaten, and the Karimunjawa Islands, aiming to increase electrification and energy consumption efficiency without damaging the environment. This clean energy project in Central Java benefits local communities and reduces the region's dependence on fossil energy for their activities. In its development and implementation, this project can be said to be successful because it can be seen from the benchmarks of community satisfaction, such as the environment that has begun to be well-organized and managed at the Jatibarang TPA, Jeruk Legi TPA, and Daleman Village. Then in terms of energy supply, such as PLTS in the Karimunjawa Islands, people who were previously only able to get electricity supply for 6 hours can now meet their electricity needs for up to 24 hours. The reason why Indonesia was chosen as one of the Asian countries in the DANIDA project is that Indonesia itself is a country with a relatively high rate of deforestation and continues to expand, especially with Indonesia's demographic and economic growth conditions that continue to increase (Ministry of Foreign Affairs of Denmark, 2007). According to the Danish Ambassador Rasmus Abildgaard, Central Java was chosen to be a pilot area for renewable energy projects because of the vision of a Governor of Central Java who can see the area's potential in efforts to develop renewable energy technology. Besides that, technically, Central Java was chosen because this province is ideal. To apply the technology desired by the Danish party (Humas Central Java, n.d.).

This paper provides an analysis of the role of DANIDA in realizing energy democracy in Central Java through the ESP-3 project. Energy democracy itself manifests efforts to achieve equitable access to energy for the community. Energy democracy in DANIDA's efforts to succeed is identified through three main indicators: popular sovereignty, participatory governance, and civic ownership. The ESP-3 clean energy management project in Central Java opens the community's potential to gradually break free from bad habits in managing the environment while helping to fulfill energy availability. In addition, the ESP-3 clean energy project also provides the greatest benefit from energy activities to the community and directly involves the local community. Several aspects that will be analyzed in this paper include an explanation of the condition and potential of energy in Indonesia and Central Java. The task of DANIDA in the ESP-3 project in Central Java to its strategy that emphasizes the participation of local communities, and continued on the implications of energy projects. Net ESP-3 to society. The fact that DANIDA has succeeded in building energy democracy in Central Java is the basis for the author in developing a problem formulation. Based on this statement, the author will analyze how DANIDA has succeeded in realizing energy democracy in Central Java through the ESP-3 clean energy pilot project?

Conceptual Framework

Energy democracy can be interpreted as an effort to achieve justice in energy access. Energy democracy emphasizes that to achieve this access, a transition is needed in determining the energy system to be used. In a sense, energy democracy highlights the disparity with the current state of the energy system, which is dominated by the conventional sector (Fairchild & Weinrub, 2017; Szulecki, 2018). In the 2012 international labor roundtable, this transition can only be made when there is a transformation of ownership of resources, capital, and infrastructure into the hands of the community. *Energy democracy* is a framework that must be applied to address inequality of access with a decarbonized economic system that continues (Fairchild & Weinrub, 2017). Szulecki (2017), also in his writing entitled "Conceptualizing Energy Democracy," has a similar view if this energy democracy in its central concept seeks to demonstrate energy transformation and decarbonization efforts by conducting energy decentralization independently by the community/bottom-up civic.

Around the world, various parties ranging from countries, international organizations, and communities to individuals are gradually realizing that new and

renewable energy does not only reduce the negative environmental impact caused by fossil energy. Based on the writing of Jennie C. Stephens (2019), apart from reducing environmental harm, the existence of new and renewable energy also has the potential to change the surrounding environment through a more just and civilized distribution of wealth, political power, and health. In addition, many parties feel that the massive use of fossil energy today only benefits a few parties and negatively impacts the surrounding community and environment. The desire to redistribute power to society through transforming new and renewable energy is referred to as energy democracy (Burke & Stephens, 2017; Stephens, 2019). Stephens (2019) further explains that the world's energy system influences society's political, economic, institutional, and socio-cultural worlds. By changing energy systems from fossil to new and renewable energy, energy democracy provides a framework for linking energy systems to social justice and climate change.

To measure how far this democracy is achieved, energy democracy divides it into two indicators of success. First, by measuring the achievement of energy democracy through decision-making methods, which are divided into three main dimensions, namely Popular Sovereignty, which explains the extent of public participation in building energy independence. Participatory Governance explains how the government is involved in efforts to build energy democracy and Civic Ownership, which explains the amount of ownership of energy access by the community (Szulecki, 2018). Then second, the analysis of energy democracy can be measured through the energy transitions that have been successfully achieved in the process of social transformation and social activism (Stephens, 2019).

Energy democracy focuses on social transformation from changing fossil energy systems to new and renewable energy (Stephens, 2019). The potential for social transformation from this displacement can be seen in the difference between new and renewable energy and fossil energy. First, infrastructure installations for new and renewable energy can take the form of small and local installations, allowing communities to manage their own new and renewable energy facilities. This condition allows the community to be economically independent and benefit economically from energy management. Second, new and renewable energy sources, as the name suggests, are environmentally friendly and can be renewed.

In contrast to fossil energy which destroys the environment and will run out in the future. This benefits the community because the energy sources, such as sun, water, wind, and waste, have very cheap selling prices and are even free of charge. In addition, due to its renewable nature, this energy infrastructure can be managed at

a low cost for a more extended period, and does not damage the surrounding environment. Lastly, the sources for creating new and renewable energy are abundant and accessible to everyone. This means that parties who want to develop clean energy do not have to compete with other parties to get these new and renewable energy resources, in contrast to limited fossil energy sources.

This process is then continued in the energy transition to social activism. *Social activism* is a movement that seeks to realize the social transformation of energy democracy (Stephens, 2019). Aspects of energy activism are divided into three aspects, namely: (1) resist which seeks to fight the fossil energy system by delegitimizing the fossil energy industry, reducing the influence of the fossil energy industry in politics, and stopping investment in fossil energy infrastructure which makes the world more dependent, to this energy source. These measures are intended to hold actors in the fossil energy industry to account for any damage they have done; (2) and followed by reclaiming as an effort to take back the energy infrastructure, the transfer made from the large energy industry belonging to fossil energy more evenly to the community through the development of new and renewable energy can have an effect in reducing the interests of the fossil energy industry in the political and economic sphere. Through reduced ownership, profit, and management; (3) the last is restructuring, where this effort can be carried out by changing the assumption that the energy system must be centralized to become more decentralized so more people can access that clean, environmentally friendly energy.

In this study, the author's framework is outlined in the analysis of the ESP-3 program scheme in Central Java to reduce the environmental damage caused by fossil energy through infrastructure development and clean energy management in various regions in Central Java. Although the Central Java Government may not explicitly want to achieve energy democracy, the collective effort between DANIDA and Indonesia in the ESP-3 project in Central Java is a form of energy democracy because it reduces the use of fossil fuel energy, shifts to new and renewable energy, and involves the community in its management.

METHOD

To answer the research questions, the author uses qualitative methods as a tool used to explain research problems. In this study, the author uses an empirical case as the basis for the object of research on Indonesia-Denmark renewable energy cooperation in Central Java Province. As a strategy, the author collects research data; in collecting secondary data, the author uses archival document techniques sourced from official documents/archives of the Central Java Government, books, or related print media. Then proceed to internet-based research techniques in the form of news web pages and peer-reviewed journals based on the project period, including discussions related to DANIDA, ESP-3, Central Java, and Energy Democracy. For primary data collection, the author uses interview techniques. This interview was conducted in two directions, with the targets being the Central Java Provincial Government and DANIDA ESP-3.

RESULT AND DISCUSSION

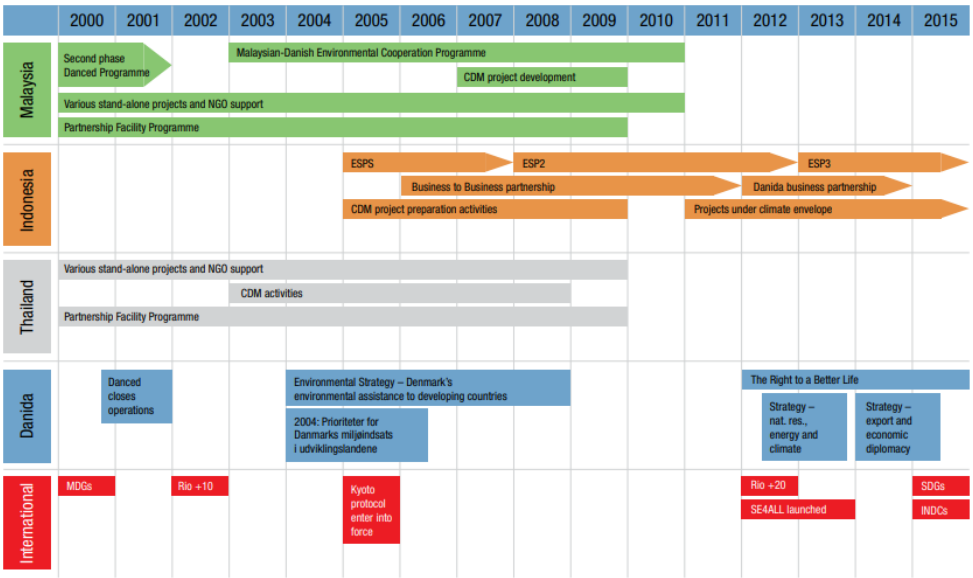
The Role of Denmark-DANIDA In Central Java

In the case of new and renewable energy, Central Java was chosen as the ESP-3 pilot project for two reasons. The first reason, based on the availability of potential and the state of the bureaucracy, Central Java became a suitable province of choice for Denmark. The second reason, based on the projection of the central government's energy mix, Central Java was chosen because it is included in one of the five reference provinces for the use of new and renewable energy (Archives of the Central Java Provincial Government, Regional Autonomy and Cooperation Bureau, 2014; Winarno et al., 2017).

DANIDA, or Danish International Development Agency, is an agency that carries a mission of cooperation and development as the implementation of Denmark's domestic policy in its commitment to overcoming poverty, promoting human rights, and helping the economy of developing countries. The formation of DANIDA was based on a legal product issued by Denmark in 1962 regarding foreign development assistance and starting in 1971, under the Danish Ministry of Foreign Affairs, DANIDA was officially established as an independent agency tasked with carrying out this mission (Ministry of Foreign Affairs of Denmark, n.d.)

On an international scale, Denmark's efforts to initiate the formation of DANIDA are also a step to reduce the impact of global warming that could threaten the country's sovereignty. The aid assistance provided by Denmark through DANIDA is generally aimed at African countries because these areas are still rarely highlighted by the international community. However, DANIDA, in carrying out its mission, also sees Asia as a potential area because Asia is a continent with a high economic rate and population (United Nations: Department of Economic and Social Affairs Population Dynamics, 2020). With the growth rate of all sectors occurring in Asia, this poses an environmental challenge for Denmark-DANIDA because this situation is increasingly endangering global climate conditions. With this situation, Asian countries dominate the production of world carbon gas emissions due to the increasing demand for energy (Ministry of Foreign Affairs of Denmark, 2007). As a follow-up to the 1992 Rio Conference on Environment and Development, Denmark-DANIDA decided to select the Southeast Asia region as the area for implementing environmental development assistance. This DANIDA strategy is then described in terms of the different time intervals of energy and environmental cooperation between Indonesia, Malaysia, and Thailand as the selected countries. DANIDA's entry into Southeast Asia is also inseparable from the involvement of the Investment Fund for Developing Countries (IFU) (Evaluation Department of the Ministry of Foreign Affairs of Denmark, 2016).

Table 1. DANIDA Engagement Time Interval Table in Southeast Asia



Source: Evaluation Department Ministry of Foreign Affairs of Denmark (2016)

Table 1. shows that DANIDA's involvement in Southeast Asia began in 2000, and DANIDA began to enter Indonesia in 2005. Then for its activities in Indonesia itself, DANIDA carries out a series of programs in three sectors, namely: (a) The cultural and arts development sector as an effort to increase capacity and space for proper actors to increase the closeness of relations between the two countries; (b) The environmental support program sector that supports the Indonesian government in environmental management and sustainable development which is further reduced to the Environmental Support Program and ends in the third phase (Evaluation Department Ministry of Foreign Affairs of Denmark, 2016); (c) Good governance program sector by promoting democracy in the form of promoting transparency and accountability within the bureaucracy. Based on the three sectors, the priority of Denmark-DANIDA in this mission is in the second point sector regarding alleviating environmental problems that occur in Indonesia.

The continuation of the environmental management and sustainable development sector in the third phase of the Environmental Support Program was later confirmed through a Memorandum of Understanding "Cooperation in the Field of Clean and Renewable Energy and Energy Conservation." The MoU was legitimated on October 22, 2015, by Indonesia, represented by the Minister of Energy and Mineral Resources, Sudirman Said, and Denmark, represented by the Minister of Energy, Building and Climate, Christian Lilleholt (Directorate General of Legal Affairs and the International Treaties Republic of Indonesia, 2015). The memorandum also makes it more straightforward that DANIDA's commitment will be implemented in the energy sector by placing Central Java as a pilot area through ESP-3.

Referring to the ESP-3 implementation agreement, the Ministry of National Development Planning/Bappenas, Ministry of Environment, Ministry of Energy and Mineral Resources, and Provincial SKPD are the leading partners for the ESP-3 program. Meanwhile, supporting partners are said to be agencies consisting of the Ministry of Home Affairs, Ministry of Finance, Ministry of PUPR, and Ministry of Forestry. Furthermore, at the provincial level, the leading partner is the provincial Regional Government Work Unit consisting of BAPPEDA, the Environment Agency, and the Energy and Mineral Resources Office. Then as a supporting partner, it is said to be an agency consisting of the Department of Industry and Trade, the Department of Human Settlements and Spatial Planning, SKPD in the Regency/City, the Regional Secretary, which includes the Government Bureau, Regional Autonomy, and Cooperation; Regional Development Administration Bureau; Production Development Bureau; and the Legal Bureau (Archive of the

Regional Autonomy Administration and Cooperation Bureau of Central Java Province, 2014).

In Central Java, the goal of the entire ESP-3 program is inclusive growth through environmental development and management, and with the ESP-3 program in the future, Central Java is expected to be able to mitigate and adapt to climate change. The objectives of ESP-3 are aligned with the National Medium-Term Development Plan (RPJKN) and the Climate Change and Energy Policy. From this goal, it was followed by budgeting of financial assistance of 270 million Danish Kroner (DKK) or 49 million US dollars as a source of funds for the three components of the ESP-3 program, and two of these components were allocated to Central Java (Archive of the Regional Autonomy Administration and Cooperation of Central Java Province, 2014).

This ESP-3 component is part of what is meant by the objectives of ESP-3, namely: (a) includes components of increasing local impacts from policy implementation that will be carried out with targets in the form of effective and efficient use of environmental funds as well as preparation of tangible KLHS documents in order to improve sustainable performance development; (b) Includes components of support for the implementation of energy efficiency and conservation policies and new and renewable energy.

For the contributions of the parties, it is stated that ESP-3 will later contribute to providing support, namely: (a) the preparation of a Strategic Environmental Assessment (KLHS) proposal in Central Java Province, which the National Technical Committee will then use; (b) ESP-3 will also provide support for priority pilot projects; (c) ESP-3 will also deploy Provincial Coordination Unit (PCU) staff in Central Java and finally; (d) ESP-3 will recruit to be used as an international technical advisor during the five-year project period, in which this advisor will work closely with BAPPEDA Central Java Province (Arsip of the Bureau of Regional Autonomy and Cooperation of Central Java Province, 2014).

On the Central Java side, it will later contribute in the form of (a) Providing office space for Provincial Coordination Unit staff; (b) Providing supporting data that is directly related to the implementation of program activities; (c) Establishing a Provincial Steering Committee in charge of planning, implementing, reporting, and monitoring results; (d) Ensure that funding assistance by the Danish Government through DANIDA can be channel and can be used according to the work plan; (e) Ensure that the disbursed funds can be accounted for properly according to the

accountability report of the Central Java Provincial Government and the latest; (f) Provide information to ESP-3 if it is found that there are obstacles or possible disruptions to the project's progress (Archive of the Bureau of Regional Autonomy and Cooperation of Central Java Province, 2014)

Energy Democracy in Central Java in ESP-3 Program

Environmental Support Program Phase-3 Implementation Process

The key to DANIDA's strategy in implementing the implementation process in ESP-3 is the guideline for implementing work programs based on community participation. This strategy begins with a dialogue approach to 35 districts/cities across Central Java. The dialogue results are then formulated and evaluated by the steering and technical committees, producing ten new renewable energy strategic project ideas. This bottom-up process later became DANIDA's first step in implementing ESP-3 to achieve the goal of energy democracy. Then in the next strategy, DANIDA, in the decision-making process, is not only on the Danish side as the provider of foreign aid but also involves other parties, including elements of the local community. Lastly, in granting the grant, Denmark intentionally provided quite a large amount of funds; even for the pilot project class, the total cost was around 160 billion Rupiah. This strategy aims to attract local governments to be serious and committed to building environmentally friendly clean energy management in their regions (Interview with Mr. Muhammad Nurhadi, 2020).

DANIDA then carried out the cooperation that was formed within the framework of the ESP-3 program as an agency under the Danish Ministry of Foreign Affairs. In the line of cooperation at the national level, DANIDA collaborates with three Indonesian ministries: the Ministry of Environment and Forestry, the Ministry of National Development Planning/Bappenas; and the Ministry of Energy and Mineral Resources.

Apart from these main objectives, several things that underlie the implementation of the ESP-3 program are the commitments from both parties to reduce greenhouse gas emissions by up to 41% (Archive of the Bureau of Regional Autonomy and Cooperation of Central Java Province, n.d.). In addition, the national energy mix plan at 23% in 2025 will significantly help Indonesia realize these interests. The implementation of the ESP-3 project was then applied to 4 cities/districts in Central Java, including Semarang, Jepara, Cilacap, and Klaten (Ibid.). The results of the project are then detailed in the following table:

Table 2. ESP-3 Program Results in Central Java

Location	Type	Value (Rp)	Capacity	User	Emission Decrease
Semarang	PLTSa	71 M	8 kW	PLN	5500
Karimunjawa	PLTS	23 M	283 kWp	645 Household	3200
Cilacap	RDF	81 M	120ton/day	Cement Factory	19000
Klaten	Bio Gas	16 M	135m2/ day	650 Household	580

Energy Democracy in Central Java

In Central Java Province, the strategy implemented by DANIDA in the ESP-3 program was analyse through an energy democracy approach. The first parameter used is to measure the achievement of energy democracy through decision-making methods. The second parameter, the energy democracy analysis, can be measured through the energy transition achieved in the process of social transformation and social activism. Starting with the first parameter, according to Szulecki (2017), there are three main dimensions to measure this energy democracy, namely: (1) Popular Sovereignty; (2) Participatory Governance; and (3) Civic Ownership.

People's sovereignty in energy democracy refers to how much people participate in efforts to build energy independence. The greater the participation, the greater the success of energy democracy. Because this community involvement will lead to independence from energy management, in Central Java, a large amount of community support and participation was indicated by the minimal resistance when the ESP-3 program was implemented. Thanks to this participation, communities in four pilot areas were helped and could feel the results of the benefits.

Government participation in the parameters of energy democracy refers to how effective governance is in efforts to realize energy democracy. This participation refers to three indicators: how inclusive the government is towards the community and how it is transparent to the community and educates the public about their concern for energy issues. In the ESP-3 program, Central Java did act passively because this program was not initiated by the local government but was the result of bilateral cooperation between Indonesia and Denmark. Even so, in this case, the Central Java government also plays an essential role in bridging the cooperative

process. Through the Bureau of Government, Regional Autonomy, and Cooperation, Central Java acts as a facilitation/facilitator for DANIDA's interests in Central Java. Provision of land and human resources is part of Central Java's role.

Civic ownership in the parameters of energy democracy explains the control of public ownership of energy access. The magnitude of this ownership level also affects the community's sovereignty in securing its energy supply. For the ESP-3 program, this ownership is not a directly controlled community but owned by the local government by involving the community and third parties such as PT. Bumi Pandanaran Sejahtera and PT Holcim Indonesia Tbk in each new renewable energy technology installation project. Although the community does not own this ownership, the benefits of the ESP-3 program can still be felt directly by the community because the local government and non-community parties only play a role as supervisors. For execution, it is left to the community's wishes, as in PLTS Karimunjawa and Biogas Machine (IPAL) Klaten (Interview with Mr. Muhammad Nurhadi, 2020).

Energy Social Democratic Transformation in Central Java

The entry of DANIDA into Indonesia is considered capable of opening up these changes, especially in Central Java, in achieving energy democracy, which so far has not been realized. To be able to see the parameters of this success, the social-democratic transformation of energy is seen through three main points: the first assesses how the social democratic energy transformation is able to change the existing renewable energy infrastructure in Central Java, then the second assesses how the social democratic energy transformation can help Java Central in managing new renewable energy sources; and finally, the third assesses how the social democratic transformation of energy can help the people of Central Java in gaining access to energy.

Energy democracy tries to explain if the installation of new renewable energy infrastructure can be built on a local scale, allowing the community to manage new and renewable energy facilities. So that the ease of installation encourages people to be independent and able to obtain economic benefits from the energy management. In Central Java, new renewable energy infrastructure installation can be realized thanks to the ESP-3 program locally. One of the most visible impacts of this local installation is the Karimunjawa Archipelago Solar Power Plant construction project in the Jepara Regency. The results of the energy conversion in

the form of electricity ultimately help 645 families to be able to manage these energy sources independently.

Central Java province has a variety of potential new renewable energy sources. In the aspect of PLTS development, geographically, Central Java is located in an area with an irradiation intensity of 3.5 kWh - 4.67 kWh per day to allow the potential for PV mini-grid development. In other sources on potential Central Java currently has hydropower with a total capacity of 386.32 MW spread over the districts of: Cilacap, Banyumas, Purbalingga, Banjarnegara, Brebes, Tegal, Pemalang, Pekalongan, Batang, Kendal, Kebumen, Purworejo, Wonosobo, Temanggung, Magelang, Klaten, Boyolali, Karanganyar, Wonogiri, Semarang and Semarang City. In addition, Central Java also has various potentials related to Biofuels and Natural Gas (Bureau of Infrastructure and Natural Resources of Central Java Province, n.d.).

For the ESP-3 project itself, the focus of developing new and renewable energy only covers the fields of solar, waste, and vegetable energy sources. Solar energy sources are implemented in PLTS Karimunjawa. The success of ESP-3 is also due to the availability of new renewable energy sources in Central Java. Without this potential, the social-democratic transformation of energy cannot be carried out, and in the end, because of this potential, energy democracy can be achieved by Central Java through the development of a new renewable energy pilot project.

In Central Java, this access to energy is achieved thanks to the ESP-3 program. The ESP-3 program seeks to connect energy access by providing energy-producing facilities from all energy potentials that have been neglected so far. As in the city of Semarang, the overload of the Jatibarang TPA causes the city to have a land crisis, and at the same time, the electricity demand of the city of Semarang is relatively high. Therefore, PLTSa was built as a solution for the people of Semarang to get easier access to energy while simultaneously saving environmental conditions. Elsewhere, the case in the RDF Jeruk Legi TPST, Cilacap Regency, also experienced the same thing. The overload of incoming waste and the increasing energy needs have caused the Cilacap Regency Government to experience land and energy problems; therefore, the entry of DANIDA in collaboration with a third party (PT Holcim Indonesia Tbk) caused this problem to be resolved by the construction of a refused-derived fuel machine. In the Karimunjawa Islands, the difficulty of accessing this energy source is visible when the people of the area still rely on diesel as their energy source.

Energy Social Democracy Activism in Central Java

Energy democratic social activism, according to Stephens (2019), is divided into three stages: fighting the fossil energy system, taking back the energy infrastructure, and restructuring the energy system (resist, reclaim, restructure). Fighting the fossil energy system is done by delegitimizing the fossil energy industry, reducing its influence in politics, and stopping investment in fossil energy infrastructure that makes the world more dependent on these energy sources. These methods are intended to hold fossil energy actors accountable for any damage they have done. In this effort, the initiation of Denmark-Indonesia cooperation which was strengthened through the MoU on Cooperation in the Energy and Renewable Sector and Energy Conservation in 2015, was proof of Indonesia's desire to create energy democracy for the people of Central Java. In this effort, the way to delegitimize the fossil energy industry is evident because the installation of new renewable energy technology projects will eventually make people independent in using their energy. Although in this case, the political involvement of the fossil industry and investment is not fully stop in Central Java.

Reclaim in terms is the next step that requires the movement of fossil industry actors to distribute energy reasonably evenly to the community, and this is done by starting the development of new and renewable energy. The existence of movement to urge these actors through the reduction of ownership, profit, and management is expected to reduce the power of the fossil industry in the political and economic spheres. In Central Java, the movement to take back energy infrastructure is not as visible in ESP-3 because, in this case, Central Java only followed the central government's instructions in DANIDA's plan to implement its foreign aid. However, with the successful development of new renewable energy and the involvement of the cement factory PT Holcim Indonesia Tbk in the refused-derived fuel project in Cilacap to decide to use waste products as a substitute for coal, this has answered how this energy infrastructure is being taken over in terms of function shifts.

Restructuring the energy system itself is a step taken by changing the assumption that the energy system that has been centralized must be decentralized so that with the decentralization of the energy system through new and renewable energy, the community will easily access energy. DANIDA has successfully realized this assumption in the energy system perspective through the ESP-3 program. The installation of new renewable energy machines in four areas in Central Java is indirectly able to decentralize this energy system to the community. Both in terms

of society and government, in the end, will change the second perception elements in utilizing their energy.

CONCLUSIONS

This study discusses Central Java as one of Indonesia's provinces that ultimately can build energy democracy for its people. Denmark, as a country that is active in promoting environmentally friendly energy, has succeeded in carrying out its commitment to concern global environmental issues. The beginning of cooperation between Denmark and Indonesia began in 2005, which began with the presence of the ESP-1 program. Then, in 2013 the ESP-3 program continued in the third phase (ESP-3), where this phase emphasized three components, namely environment, energy, and forests.

The concept of energy democracy is an analytical tool to answer DANIDA's implementation strategy in Central Java. So to measure the success of DANIDA, the first parameter is used, namely energy democracy through decision-making methods with three main dimensions: popular sovereignty, participatory governance, and civic ownership. Then in the second parameter, democracy is measured based on the energy transition process that occurs based on social transformation and social activism. Furthermore, external assistance in the ESP scheme is used as a link in achieving energy democracy in Central Java.

Popular sovereignty or people's sovereignty in energy democracy measures how much people participate in efforts to build energy independence. In Central Java, the magnitude of this participation is indicated by the absence of resistance during the ESP-3 program. Participatory governance in a democracy is also trying to see how effective the government is in bridging the collaborative process in the ESP-3 program. In this parameter stage, the local government has an essential role because it has succeeded in its function as a facilitator. Furthermore, civic ownership tries to explain how ownership of this energy installation can affect how much energy access can be achieved.

In the second parameter, this success is measured through the transition process that occurs in social transformation and activism. Energy democratic social transformation uses three aspects to measure these changes. The first aspect, is starting with a new renewable energy infrastructure. In Central Java, new renewable energy infrastructure installation can be realized thanks to the ESP-3 program locally. Then in the second aspect, based on new and renewable energy

sources, Central Java is considered a strategic province because its natural resource potential can be maximized in the ESP-3 program.

Furthermore, in social democracy, energy activism is a parameter used to measure how much commitment the actors involved in achieving the social-democratic transformation of energy are. Energy democratic social activism emphasizes a movement of efforts to realize the social transformation of energy democracy. The measured aspects of energy democracy and social activism are divided into three stages: resist, reclaim, and restructure. In the resist aspect, this effort to delegitimize the fossil energy industry is not very visible, but thanks to the ESP-3 program, at least it can reduce the influence of the domination of the fossil energy industry, although not completely.

On the reclaimed aspect, the measure of the success of energy democracy is measured by the pressure on the fossil industry actors to distribute energy fairly and evenly to the community. For Central Java Province, the movement to take back energy infrastructure is also not so visible in ESP-3. However, with the construction of a new renewable energy machine installation, such as the involvement of the cement factory PT Holcim Indonesia Tbk in the refused-derived fuel project in Cilacap to decide to use waste products as a substitute for coal, it has answered how this energy infrastructure is taken over in terms of changing functions. Finally, on the aspect of restructuring, it is a step that seeks to change the view of energy systems that have been centralized to decentralized. DANIDA has successfully realized this assumption in the energy system perspective through the ESP-3 program. Presenting the results of four new and renewable energy installation projects spread across Central Java has answered changes in assumptions for the community and local government.

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Understanding China's Geoeconomic Maneuver Against Ethiopia Through an Energy Geopolitical Perspective

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History

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Abstract
Departing from the need for energy supply which increases every year, China's foreign policy through the Belt Road Initiative (BRI) is trying to maneuver against areas in the world, including Africa. The African region is one of the regions in that China has given various kinds of assistance to trigger economic growth for countries in the region. Where one of the countries that China is aiming for is Ethiopia as a landlocked country, this research will provide an analytical description of China's interests in geoeconomic maneuvering against Ethiopia through the perspective of energy geopolitics. This study uses descriptive qualitative research methods in data collection, the material of which is sourced from the existing literature. Research on China's geoeconomic maneuvers against Ethiopia shows that China needs Ethiopia as an access point for energy transportation to be channeled to the State of Djibouti, where the country has one of the largest ports in the world and is strategically located in the world's trade routes.

Key Words: China, Ethiopia, Geoeconomic, Geopolitic Energy, Belt and Road Initiative

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INTRODUCTION

China is an emerging country with dominance in the economic field. The emergence of China's state domination in the economic field is inseparable from a long history. Starting from the era of Deng Xiaoping's government, which revolutionized the Chinese economy by liberalizing the previously closed market. This new face of the Chinese economy will be maintained until the change of leader. The election of President Xi Jinping has made this country experience a more advanced era. In 2013 Xi Jinping had the ambition to build a mega-project connected to 60 countries in Asia, Europe, and Africa. This ambition was initiated on the basis of an initiative to build a land and maritime silk route, which is known as One Belt, One Road. This policy is a reflection of China's efforts to open trade routes that have been carried out for thousands of years. In addition to opening trade routes through the Belt Road Initiative (BRI) policy, China has also intensified foreign investment between countries in the world, which signifies China as a country that upholds peace, cooperation, and openness. This policy is projected to provide an opportunity for China to improve policy coordination, cultural exchange, financial integration, investment, and trade, as well as cooperation in the area covered by this policy (Imomnazar, 2018).

BRI itself is a large project that has a fairly ambitious vision of connecting countries in the world, especially in Asia, to the African region. In carrying out this policy, BRI requires a fairly high cost. Annually, BRI spending is estimated at $100 billion per year (Marbler & Shan, 2017). In carrying out this policy, China made several instruments, including the New Development Bank, Asian Infrastructure Investment Bank (AIIB), Silk Road Fund, and Free Trade Area (Callaghan & Hubbard, 2016), as well as other instruments in the field of funding. The Chinese state hopes that with the enactment of BRI as its foreign policy, it will be able to have an impact in helping to increase trade and investment (Imomnazar, 2018). This makes this policy one of the greatest development plans in modern history (Cai, 2017). China, through the mainland, is trying to integrate the regions of Central Asia, Europe, and Africa through ports and railroads.

Africa is a very attractive region for the world because of its abundant natural resources and politically weak, and very open to international exploitation (Klare, 2008). Starting from mineral resources such as bauxite, uranium, platinum, titanium, and cobalt to gas and oil available on this continent. World countries such as the United States and China flocked to control this region, especially in East Africa. This makes the African Region seen with geopolitical significance by these two countries. Countries such as Algeria, Sudan, Angola, Libya, and Nigeria are the largest oil-producing countries, with a total of 105 billion barrels or 90% of existing

reserves (Klare, 2008). In addition, there is Djibouti which has the largest port and will become the hub of South Sudan, Ethiopia, and China. The rise of China has become an integral part of East Africa, and the development of other African regions and countries in the world project power by rivaling the "US hegemony" (Osman, 2019). This is because the East African Region is the most politically dynamic region in Africa and is one of the most vital shipping lanes in the world.

Over the past two decades, China has become the largest trading partner for the entire African continent. Through the Belt and Road Initiative program, the African region has become one of China's strategic targets where there is an official discourse that promises "win-win" development outcomes (Padraig et al., 2021). Through the China-Africa Cooperation (FOCAC) forum, it is estimated that China will invest in the African region with a total of $170 billion in 2017 to build infrastructure (Chien-peng, 2019). This is evidenced by China's exporting to the African region by as much as 15-16% and China being a source of imports for Africa (Yalew & Changgang, 2020). Africa's exports to China include minerals, fuels, and agricultural products, while Africa imports a wide variety of machinery, transport, communications equipment, and manufactured goods from China. The relationship between China and Africa certainly involves various countries in the region. This is because the African region, especially East Africa, is located in a strategic location on the Red Sea, Gulf of Aden, and the Indian Ocean.

Infrastructure development in East Africa is made a priority issue to facilitate sustainable regional development. For the East African region, infrastructure is critical to achieving the sustainable development goals of the African Union Agenda (2063) and the five high goals of the African development bank (AfDB) in Africa (yalew & Changgang, 2020). In the 2015 Johannesburg Action Plan, China promised to undertake massive infrastructure development in Africa (Oqubay, 2015). This infrastructure development includes energy, transportation, information, telecommunications, and transboundary water resources. As an implication of China's promise to the African region, China has built rail infrastructure, airports, and ports in Djibouti, Kenya, and Ethiopia (Renwick & Gong, 2018).

In addition to the close diplomatic relations between Ethiopia and China, the increasing economic growth in Ethiopia was also caused by the BRI policy, which assisted Ethiopia in the construction of the Addis Ababa - Djibouti railroad infrastructure. The country of Djibouti itself has a multipurpose port facility located in Doraleh to meet economic growth in Ethiopia. This is because Ethiopia is a landlocked country in East Africa, and Ethiopia's economic growth has been highly dependent on the port of Djibouti since 1998 (Wuhibegezer, 2014). The Addis Ababa-Djibouti railway is connected to this port as an easy mobilization for goods

and energy shipments. The project is planned to expand its infrastructure development from the Dakar port in West Africa to all landlocked countries in Africa.

For China, its presence in Ethiopia is due to its dependence on oil and mineral resources in mainland Africa which continues to increase every year. In addition to the construction of rail infrastructure, China is also building a gas pipeline connecting Ethiopia with Djibouti. This is because the country is surrounded by China's oil and gas supplying countries, such as Sudan, South Sudan, Kenya, and Somalia. It is reported that Ethiopia and Djibouti also signed a memorandum of understanding for the construction of a $4 billion 767 km natural gas pipeline that will transport extracted gas in the Ogaden region of southern Ethiopia and in the Regional State of Somalia (SRS) (Maasho & Potter, 2019). The MoU confirms that Ethiopia's nascent oil and gas sector is finally on the rise. It also underscores China's growing influence in Djibouti and Ethiopia. The pipeline will be built by the Chinese company GCL-Poly, which is also developing the gas field (Xinhua, 2019).

Departing from the need for natural resources and this research will later seek to see how the BRI Geoeconomic maneuvers carried out by China against Ethiopia in the East Africa region through the perspective of energy geopolitics. China's interest in meeting its energy and economic needs makes this country must be able to open access to countries in South Africa, such as South Sudan, Sudan, and Djibouti. These countries have a useful energy supply to achieve China's BRI program. So, Ethiopia was chosen as the liaison between these countries. As a landlocked country, Ethiopia has a strategic location to achieve the interests of the Chinese state. The research question posed by the author in this study is based on the introduction described earlier, namely " What is China's interest in carrying out geoeconomic maneuvers against Ethiopia, which is a landlocked country and lacks natural resources?"

Literature Review

Referring to the literature written by Yalew MT regarding "China's 'Belt and Road Initiative': Implication for Land Locked Ethiopia," he said that the implementation of BRI policies in the Ethiopian Region had quite good opportunities in the fields of trade, investment, tourism (Yalew & Changgang, 2020). From the article written by Yalew MT, it can be seen that China's relationship with Ethiopia is very close. This is reinforced by the relationship between China and Ethiopia, which continued to improve from 2006 to 2017.

Furthermore, the second article, entitled "The Maritime Silk Road Initiative and Ethiopia: Transforming Policies, Institutions, and Politics in Expected and

Unexpected Ways," discusses the Maritime Silk Road (MSR) in Africa, and Ethiopia is one of the earliest African countries to sign the working document. With the Belt and Road Initiative (BRI). The second article written by Jean-Marc F. Blanchard and Edson Zico has similarities in terms of discussion, whereas the first article discusses the benefits of Ethiopia from the BRI policy.

The third article discusses the Maritime Silk Road, which has the aim of connecting China to the African region. In his research article, Mboya tries to explain the progress of the MSRI project in East Africa in various fields (Mboya, 2021). In this regard, Mboya provides extensive information on MSRI in Kenya, Ethiopia, and Djibouti, looking at various rail projects, seaports, and others, as well as these policies having various political and economic challenges.

The fourth article, written by Ana Cristina Alves, discusses China's use of capital loans to build infrastructure in Africa as a tool for mutually beneficial economic cooperation (Alves, 2013). This formula, offering cheap loans for infrastructure in exchange for access to resources, has largely emerged as a tool for China's cooperation with the African Region. On the one hand, the provision of infrastructure makes a strong contribution to the economic take-off of a large number of African countries and arguably improves the lives of millions of people across Africa. However, on the other hand, the shortcomings shown in this study may, in the long term, offset the direct impact on the economies of countries in the African Region.

The last article written by Aleksi Ylonen, it was found that the closeness of China and countries in Africa was caused by investment and capital loans (Ylonen, 2020). This creates a profit for economic growth in general. Chinese investment has benefited Africa in terms of infrastructure and production facilities through the introduction of new technologies. However, at the same time, China's economic expansion in Africa will have an impact on several economic challenges, such as the weakening of local producers due to very cheap imports of goods from China.

THEORETICAL FRAMEWORK

According to Per Hogselius (2019), energy geopolitics is not only about the energy contained in the earth, such as fossil fuels, uranium, wind, and water. Rather energy geopolitics is the movement of energy through the tankers, pipelines, and transmission lines necessary for the energy trade to be viable and about the places where energy in its various forms is produced, purified, stored, and consumed. As time goes by, energy infrastructure continues to play a very important role and shape the internationalization and world energy systems such as oil and gas tankers, pipelines, and power transmission lines (Hogselius, 2019). In his book, Energy, and

geopolitics (2019), Hogselius explains that there are several phases. One of them is the phase in the development of the energy system, which is characterized by material growth and geographical expansion, which results in an interrelated integration process through long-distance transportation systems. In this integration process, the government usually goes through the foreign policy of a country by manipulating system-building through investment in gas pipeline infrastructure by utilizing transit countries to influence state politics which will later affect foreign policy. This can be seen from the case of an energy system based on a natural gas pipeline network where a country does not have a viable alternative route. (Hogselius, 2019).

Through the approach of Per Hogselius, Governments can manipulate system-building activities for foreign policy purposes. In fact, foreign policymakers rarely start building new energy systems or new components or links to such systems. However, it is common for them to intervene in such activities, encourage or prevent various projects, and try to reshape them to serve their interests. Perhaps the most typical situation here is when the Prime Minister or the Ministry of Foreign Affairs hears about a project proposed by an energy company or equipment supplier. The government sees the benefits of the project in terms of foreign policy, and sometimes with great enthusiasm, to improve diplomatic relations with the countries concerned and to improve the country's general position to strengthen the world stage. You may decide to support the project, believing that it will help. Alternatively, we may reject the proposed project based on the perceived political risks. These considerations clearly shape the world's energy geography. In addition, many governments have attempted to mobilize energy-related activities as a tool to support territorial disputes and gain political influence abroad. It builds on a long historical tradition established during the era of empire expansion, where evidence of economic or industrial activity was widely regarded as a prerequisite for international recognition of territorial claims.

This study will only focus on the country of Ethiopia as the main source of discussion, as well as alluding to countries in the East African region, such as Djibouti, South Sudan, and Sudan, which have links with Ethiopia as a "landlocked country". The objectives of this research are as follows; the author tries to describe China's geoeconomic manoeuvres against Ethiopia through the Belt Road Initiative policy and associated with China's energy geopolitics. In addition, the author will also identify China's interests in the country of Ethiopia.

According to Rajasekar (2006), research is a logical and systematic search for new and valuable information about a particular topic. Research must focus on conducting investigations or explaining scientifically through objective and systematic analysis so that research is expected to produce new contributions to

existing knowledge in advancing a field. The method used by the author in answering research questions is a qualitative research method. The qualitative research method is a type of research used by the author to rely on observations and descriptions in research. This method is used to assess attitudes, behaviours, and opinions from other points of view in a particular study.

RESEARCH METHODS

Creswell (2013) argues that qualitative research is a valuable approach to exploring, understanding, or interpreting phenomena in the context of the meanings carried by the subject or object involved in the phenomenon. The data collected in qualitative research methods include a description of the object, unlike quantitative, which rely on numbers. That way, the qualitative research method has descriptive and narrative properties so that the author can analyze the description and interpretation of the Sino-Russian military cooperation in dealing with security instability in the Asia Pacific region.

The data collection technique is one of the stages carried out by researchers, which includes tracing, searching, to collecting data from authentic sources. In conducting his research, the author used internet-based data collection techniques (Bakry, 2016). Data collection can also be internet-based which can be said as searching for data through information sourced from the internet by browsing and selecting books, journals, government websites, and various trusted media. It can also search multiple keywords automatically; literature can be found in various credible sources, thus helping research as a supporting reference in the research process stage.

RESULT AND DISCUSSION

Though China's BRI geoeconomics, the government can manipulate system-building activities for foreign policy purposes. According to Hogselius (2019) that, system-building manipulation is rarely seen by foreign policy actors who take the initiative to build a new energy system or a new link in the system. But usually, the State intervenes in various activities to encourage the fulfillment of their interests. In this case, it is illustrated that China is carrying out system development manipulation activities through BRI policies that aim to encourage various projects through investment and trade to achieve geopolitical energy interests in Ethiopia.

China's BRI geoeconomic maneuver against Ethiopia is based on its strategic geographical position in the Horn of Africa. In this regard, the Horn of Africa has several important member states, which include Djibouti, Eritrea, and Somalia, as

well as the Great Horn region, which includes Kenya, Sudan, South Sudan, Uganda, and Yemen, which traverses the Bab el-Mandeb Strait in the Red Sea. The Bab el-Mandeb Strait, which connects the Red Sea and the Arabian Sea, is an important waterway for maritime traffic and trade between Europe, Asia, and Africa. More than 20,000 ships pass through it every year, making it one of the most important and busiest straits (Xiao et al., 2020).

China needs Ethiopia as a liaison country to Djibouti. Through the Addis Ababa-Djibouti rail project in 2015, it became one of the pillars of a broad network in the Horn of Africa designed to eventually connect the ports of Berbera, in Somalia, Kenya (in Lamu), and Tanzania (in Bagamoyo). Much deeper, the construction of the Addis Ababa-Djibouti railway is seen as the beginning of a trans-African railway project connecting Djibouti to the Bab el-Mandeb Strait, which is expected to be able to improve relations with China at the continental level (Zhou, 2017). This railway project is very important for Ethiopia, which is a landlocked country and depends on the state of Djibouti, which is adjacent to the Red Sea coast, because Djibouti is the main gateway for Ethiopian exports and imports. For China, the completion of the Addis Ababa–Djibouti Railway is a symbolic achievement of the Belt and Road Initiative and stands as an important project for China-Africa cooperation in building the "three main networks" (railways, highways, regional aviation) to enable industrialization. Railways will be a catalyst for development in Ethiopia and Djibouti (Lu, 2017).

From this, it can be seen that China's manipulation of the building system against Ethiopia is in the form of infrastructure investment used to mobilize energy supplies. This is also in accordance with the statement in Hogselius' book where the activities carried out in the manipulation of the building system (system-building) as a geopolitical energy tool to mobilize energy-related activities as a tool to support territorial claims and gain political influence abroad (Hogselius, 2019). Of course, this statement is in line with the BRI maneuvers carried out by China against Ethiopia with infrastructure projects financed by China in order to support energy mobilization to gain influence in the Horn of Africa.

China uses the BRI as a tool to invest in Ethiopia, which aims to achieve geopolitical energy instruments in the form of system-building manipulation. The example of the case in Ethiopia shows the geopolitical move of energy from China through the application of geoeconomic instruments in the form of infrastructure development, such as a gas pipeline connecting Ogaden to Djibouti, South Sudan to Ethiopia, and the construction of the Addis Ababa-Djibouti railway which will later facilitate China's energy geopolitics. In the East African Region. This means that China is manipulating this system-building for the sake of energy supply security and facilitating the mobilization of energy trade to China against Ethiopia as a buffer

state, which has implications for BRI cooperation (Mosley, 2020). China sees this as an opportunity to build beneficial diplomatic relations, spread models of social and economic development, and shape the political future of Africa (Hogselius, 2019).

When viewed geographically, the location of the country of Ethiopia, which is in the Horn of Africa region, provides an opportunity for China to open a new energy system to the country of Djibouti. Even though Ethiopia is a landlocked country, China is still investing heavily. The construction of the Addis Ababa - Djibouti railway and the construction of a gas pipeline in Ogaden, which is an energy transportation system, will provide a geopolitical energy measure for China. According to Hogselius (2019), the development of an energy transportation system will have an impact on an interrelated integration process through a long-distance transportation system. In this integration process, the State usually goes through BRI policies by manipulating system-building through gas pipelines by utilizing transit countries to influence state politics which will later affect foreign policy.

Reflecting on the case of China carrying out geoeconomic maneuvers on Ethiopia, which is a country that lacks natural resources and is a landlocked country, it can be seen from a geopolitical perspective. China sees Ethiopia as an important player as a connecting bridge for BRI in accessing construction in the African region (Meester, 2021). Politically, China views Ethiopia as an entry point in securing deeper access to diplomatic and economic relations with countries in the East African region. This is because Addis Ababa, which is the capital of Ethiopia, is the host of the headquarters of the African Union, the United Nations Economic Commission for Africa, and more deeply, it can be seen that Ethiopia presents an authoritarian model inspired by China and is the most stable country in the Horn of Africa region (Meester, 2021).

It can be interpreted as geopolitical that China's presence in Ethiopia, which is a landlocked country, is a form of mobilizing energy supplies and as a liaison country for construction access to the African region. China, through an investment policy in the form of the construction of a railroad transportation line from Addis Ababa to the port of Djibouti to assist in achieving maritime trade routes along with fuel imports (Tarrosy & Voros, 2018). China sees that Djibouti is a country that has a very strategic location because the entire Red Sea in the south, from the Suez Canal to the Bab el-Mandeb Strait, is a strategic link between the Mediterranean Sea and the Indian Ocean (Zheng, 2017). On the other hand, China also has a military base in Djibouti, which aims to exert influence in the region, and if we look further, China's interests in changing the geopolitical constellation that exists in the Indian Ocean region (Ramadhan, 2018).

This strategic location will be an arena of power for countries such as the United States, France, China, Turkey, Iran, Egypt, Qatar, Saudi Arabia, and Japan to protect their interests with various objectives, which have incalculable consequences for the market. Global oil (Tesfaye, 2020). Coupled with the construction of gas pipeline infrastructure from South Sudan to Ethiopia, it will have implications for China's influence in the region. This means that the mobilization of energy distribution movements and security in energy supply will be easier for China. China's presence in Ethiopia through energy geopolitics can be seen as a way to increase its influence in the Horn of Africa region and accelerate the integration process of BRI in Ethiopia. In addition, China sees Ethiopia as a key country in securing its influence on diplomatic and economic relations with African countries.

CONCLUSION

The implementation of the BRI policy has become a concrete form of China's geopolitical energy and geoeconomic strategic steps in Ethiopia. China's maneuver against Ethiopia, which is a landlocked or landlocked country, will indirectly provide access to energy resources for China. China's increasing energy needs provide an opportunity for China to increase its country's energy geopolitical interests. Through the State of Ethiopia, China is able to stabilize the country of South Sudan for the benefit of oil and gas energy. This is because 80% of oil reserves are in South Sudan. Through manipulative system-building as an effort from energy geopolitics, China sees Ethiopia as a transit country to open access to energy distribution from South Sudan to the Port of Djibouti which will be channeled to China and accelerate the process of integrating China's BRI policies to countries in the Horn of Africa region. The existence of Ethiopia has a strategic location as a connecting country and supports the spread of Chinese influence in the Horn of Africa region. Thus, China can achieve its energy geopolitical interests by making Ethiopia a connecting country. Through manipulative system-building as an effort from energy geopolitics, China sees Ethiopia as a transit country to open access to energy distribution from South Sudan to the Port of Djibouti which will be channeled to China and accelerate the process of integrating China's BRI policies to countries in the Horn of Africa region. The existence of Ethiopia has a strategic location as a connecting country and supports the spread of Chinese influence in the Horn of Africa region. Thus China can achieve its energy geopolitical interests by making Ethiopia a connecting country.

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Analysis of Saudi Arabia Intervention in Decisive Storm Operations in Yemen

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Abstract
This research analyses the factor that influenced Saudi Arabia's decision to intervene in Yemen's civil conflict through military intervention known as Operation Decisive Storm in 2015. Before 2014, Saudi Arabia always avoided intervening in Yemen's civil conflict. However, there was a behavioral change in Saudi Arabia's policy when they decided to do military intervention in Yemen. Answer this Explanatory research using strategic theory and qualitative research methods. In the analysis of this research, the researcher found that the reason why Saudi Arabia's sudden change to intervene the conflict is influenced by a geographical factor in which there is a potential threat from Houthi rebels to Saudi nearest region that directly borders Yemen and the participation of Saudi Arabia's Political Rival in Regions, Iran, for the battle of hegemony.

Key Words: Intervention, Saudi Arabia, Yemen, Operation Decisive Storm

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INTRODUCTION

Yemen's civil conflict started in 2004 and was triggered by anti-government demonstrations led by Husein bin Badruddin Al-Houthi. This demonstration aims to oppose the Yemeni government, which is considered to have discriminated against the people of North Yemen (Boucek, 2010). After the death of Husein, the demonstration turned into a rebellion continued by Abdul Malik Al-Houthi, who raised the name of the Houthis as a significant rebel organization in Yemen (Finn, 2015).

In the course of the conflict, the Houthi group put enormous pressure on the Yemeni government. Since 2004, the Houthi insurgency has fueled tensions in various parts of Yemen. This was preceded by an incident on June 20, 2004, in which the Houthis attacked a military post that provoked tribal conflicts in the Maran and Sa'adah areas (Peterson, 2008). Departing from this incident, the insurgency movement has flared up in various parts of Yemen (Peterson, 2008). As of October 29, 2017, approximately 5,159 civilians were killed, and 8,761 people were injured (OCHA, 2017).

In its operations, the Houthi group is supported by various civilian groups to foreign governments (Boucek, 2010). Based on an investigation conducted by the Yemeni government, Iran is a country supporting the Hout movement (Boucek, 2010). Due to this, the Yemenis withdrew their ambassador from Tehran. In 2009, the Yemeni government accused Iran of facilitating and providing military training to Houthi rebels to overthrow the legitimate government.

On the other hand, Saudi Arabia is a country that has sympathy for the regime of Abd Rabbuh Mansur Hadi (Cordesman, 2015). According to Anthony H. Cordesman, for Saudi Arabia, Yemen is a vital neighbor because the geographical proximity of the two countries can affect the economic and political situation (Schmits, 2017). To show its sympathy, Saudi Arabia has made many non-intervention efforts to support the Yemeni government. According to Scott A Silverton, *intervention* can be an action taken by a country in interfering in the territorial or domestic affairs of another country, using force media to influence the power of a foreign government over its territory and population (Silverton, 2011).

Apart from that, in the political field, Saudi Arabia also shows their sympathy for the Yemeni government by printing various news stories that propagate that the Houthis are a terrorist group and that the Yemeni government is an actor that should be supported in the course of the conflict (Abdi, 2016). This fact is evidenced through various news headlines produced by Saudi Arabian media, which always

use the keywords Rebels, Terrorists, Human Rights Violators, and others to describe the Houthi group, and the keywords protect, stabilize, and peace to describe the Yemeni government (Abdi, 2016).

From the beginning of the conflict until 2014, Saudi Arabia never intervened in the Yemen conflict, but this changed when Sanaa city fell to the Houthis on September 21, 2014. Saudi Arabia decided to intervene in the domestic conflict in Yemen (Saudi Arabia). Embassy, 2017). After the city of Sanaa was captured by the Houthi rebels in 2014, the Saudi Arabian government intervened militarily to support the stronghold of Abd Rabbuh Mansur Hadi until the civil war finally broke out in 2015 (Nunlis, 2015). Military intervention is a form of intervention that uses military resources as its implementation instrument (Dawood, 2014). Together with its coalition, Saudi Arabia formed a Houthi clearance operation known as Operation Decisive Storm (ODS) (Shabaneh, 2015). This operation began on March 26, 2015, involving several Saudi Arabian coalition countries such as Qatar, Bahrain, Kuwait, United Arab Emirates, Egypt, Jordan, Morocco, Pakistan, and Sudan (Shabaneh, 2015). This operation was carried out by carrying out a large-scale aerial bombing in areas indicated as Houthi defense bases and deploying armed forces into Yemeni territorial areas (Stenlie, 2015)

The change in Saudi Arabia's behavior in launching military intervention is a question mark. The reason is that when viewed from the behavior of Saudi Arabia in other conflicted countries so far, Saudi Arabia is a country that tends to avoid intervention, let alone military intervention. This is in line with the commitment that Saudi Arabia has to prioritize peaceful ways in achieving conflict resolution, as they have conveyed in a joint statement represented by the King and Prime Minister of Saudi Arabia, King Fahd Bin Abdel Aziz, together with the Head of the National Security Agency. Prince Abdullah bin Abdel Aziz responded to resolving the conflict in Palestine in 2003 (Kuna, 2003).

Saudi Arabia was originally a country that played a role in providing development financial assistance to strengthen the Yemeni government, but this changed when the city of Sanaa fell into the hands of the Houthis until Saudi Arabia finally decided to intervene in the form of the military with Operation Decisive Storm in 2015. In this study, the author will analyze changes in the behavior of Saudi Arabia from a country that did not intervene directly in the Yemen conflict to a country that intervened in the form of a military operation known as Operation Decisive Storm (ODS).

Until 2014, Saudi Arabia had never intervened in the conflict in Yemen. The reason is that since the beginning of the conflict between the Houthis and the Yemeni government, Saudi Arabia has only acted as a state assisting in the form of development financial assistance. After the city of Sanaa fell into the hands of the Houthis and the unilateral declaration of the Houthis as the holder of power in Yemen, Saudi Arabia intervened by gathering military forces by forming a military operation known as Operation Decisive Storm in 2015. Based on this, the thing to be investigated in this study is the change in behavior of Saudi Arabia from a country providing aid to a country that intervened military through Operation Decisive Storm in Yemen.

METHOD

This study uses a qualitative research method with a descriptive-analytical approach. According to Alan Bryman, *qualitative research* can be defined as a type of research that emphasizes an inductive approach to finding the relationship between theory and what is being studied. The purpose of this type of research is to make a systematic, factual, and accurate description of the facts, nature, and relationships between the phenomena being analyzed and the concepts used. To obtain data in this study, the authors used data collection techniques through Documentary Research, namely the data collection by tracing (Tracing) documents. According to Alan Bryman, Documents can be used as a source in conducting research as long as the documents used are relevant to the research (Nassaji, 2015). In this study, the authors performed a qualitative analysis technique consisting of three stages: data reduction, data presentation, conclusion drawing, and verification (Adams et al. 2007).

RESULT AND DISCUSSION

Yemen civil conflict

In historical context, North Yemen and South Yemen have very different characteristics. Before 1962, North Yemen was ruled by the Zaidi Islam group, a Shia Islam sect. Southern Yemen is an area dominated by Sunni Islamist groups. In 1977, South Yemen was under British rule until finally, thanks to various nationalist movements, Britain was forced to hand over power to the nationalists until the Republic of South Yemen was formed (Dresch, 2000).

Although ideologically different, the two countries desire to carry out unification based on the similarity of historical factors among the Yemeni people. This wish

was finally realized in 1990 when both parties signed the unification constitution with a multi-party political system (TEIMUN, 2017). The union of North Yemen and South Yemen did not last long. In 1994, there was an upheaval in the body of the Yemeni government. This upheaval stems from the discontent of former South Yemeni socialist groups who feel North Yemenis have dominated them. This upheaval culminated in a civil war between the South Yemen separatist group and the Yemeni government at the time.

In general, there are two main periods in the civil conflict in Yemen, the first period occurred from 2004 to 2010, and the second period occurred from 2011 to 2015. In the first period, from early 2004 to 2010, the group movement The Houthis in Yemen had its ups and downs, the escalation of the conflict between the Houthi rebel group and the Yemeni government is quite long (Boucek, 2010). The second round of civil conflict in Yemen occurred from 2011 to 2015, which began with events of the Yemeni revolution that made the government weak. The reason is that less than a year after the Houthis carried out the ceasefire with the Yemeni government, the wave of protests and demonstrations made the chaos continue. This democratic action aims to bring down the regime of President Saleh, who has led for 33 years (Faqih, 2011).

The Yemen conflict has affected the surrounding countries. The conflict in Yemen has harmed Saudi Arabia and the region. The most significant impact caused by the civil conflict in Yemen is on Saudi Arabia's national security issues. With the civil conflict in Yemen, the Houthis are actively carrying out armed attacks targeting military camps belonging to Saudi Arabia to steal weapons supplies that they will use to rebel, especially in Saudi Arabia's border area with North Yemen. The security threat is also felt directly by Saudi Arabian villages near the northern Yemen border. The Houthis attack these villages in search of food supplies and seek temporary shelter (Worth, 2009)

The civil conflict in Yemen is suspected of having a potential threat in the field of regional security. The reason is that the civil conflict in Yemen has invited the development of a terrorist movement in the Middle East. This terrorism movement is allegedly an extension of the Al Qaeda group that wants to form a base of operations in the Gulf area, called the Al Qaeda in Arabian Peninsula (AQAP) movement. Due to the ongoing conflict, many terrorist groups have fled to Yemen to seek asylum and recruit new members (Knoll, 2017).

Saudi Arabia Intervention Analysis

The military intervention carried out by Saudi Arabia in Operation Decisive Storm in Yemen in 2015 became an exciting matter. Based on the course of history, since the end of the gulf war, Saudi Arabia is not a country that likes to intervene directly in other countries' internal conflicts, especially in military disputes.

According to strategic theory, the purpose of a country in intervening in civil conflict is not limited to material problems but also non-material interests such as the influence of the state on other countries (Yarnger, 2006). In the civil conflict in Yemen, strategic theory explains that a drastic change has given Saudi Arabia a dilemma. To determine what changes are the factors that create the dilemma, one of the things we can do is to analyze the significant events that occurred sometime before the Saudi Arabia-led Military Intervention was formed in March 2015. Based on the data obtained, two critical events occurred. Made significant changes in Saudi Arabia's strategic environment in Yemen, namely the conquest of the city of Sanaa by the Houthis on September 21, 2014, and the end of the vacuum of power in Yemen after the Houthis declared themselves the new government of Yemen on February 6, 2015.

In this chapter, the author will analyze research using Strategic Theory with four elements of the Strategic Environment, namely Physical environment, National Character, State and War Mechanisms, and Balance of Power Mechanisms, to analyze the change in behavior of Saudi Arabia.

According to the Strategic Environment, geography is one of the crucial factors influencing the state's actions. In this case, the strategic environment understands that every actor involved in a conflict will always be influenced by the physical reality they are located in. This physical environment is not only limited to things such as the shape of land, sea, or weather but also to spatial problems, natural resources, and communication lines arranged based on the political, social, and economic conditions that make up a country.

In the civil conflict in Yemen, the geographical proximity of Saudi Arabia and Yemen, which directly borders, became one of the crucial factors that prompted Saudi Arabia's decision to intervene militarily. According to the strategic environment, countries with borders will have different relations with countries that are separated by land or sea (U.S Marine Corps, 2007). In the case of Saudi Arabia and Yemen, the two countries are directly adjacent. Northern Yemen is bordered by approximately 1,458 KM, with the provinces of Jizan and Najran in Southwest Saudi Arabia (Library of Congrress, 2008). Jizan and Najran are directly

adjacent to the Houthi operation area in Yemen, with details of the distance from the city center to the Houthi operation area being around 50-65 KM to Jizan and less than 10 KM to downtown Najran.

In the Jazan Economic Community, Saudi Arabia plans a large-scale development with a total investment value of 27 trillion US dollars with a development focus on three sectors, namely agriculture, manufacturing, and energy. In agriculture, the government of Saudi Arabia plans that 2/3 of the 100 million hectares of Jizan area will be used in manufacturing industry development. In industrial development, Jizan has a total investment asset of 26.71 billion dollars, with an industrial focus centered on the steel, oil, and shipping industries (Saudi Aramci, n.d.).

In agriculture, Jizan is also a strategic area for Saudi Arabia in agricultural development. This is based on the geographical advantages of Jizan, which is rich in underground water sources, which is essential for Middle Eastern countries, most of which are dominated by deserts and unsuitable for growing crops. Since 2002, Saudi Arabia's government has allocated 7 billion dollars to agriculture in Jizan to reduce imports and increase national income from the oil and gas sector (Khan, 2002).

The neighboring province of Najran, which is also directly bordered by North Yemen and northern Yemen, has important assets for Saudi Arabia. This is because this area is one of the vital areas in Saudi Arabia's industrial development, such as food, dairy, clean water, chemical, and the iron industry. In 2011 Saudi Arabia established approximately 32 large-scale factories with total assets reaching 1686 billion Saudi Riyals in Najran (Monaha, 2016). Total investment in Najran is increasing from year to year, and Saudi Arabia is given special treatment in the field of assistance, where investors are given the right to borrow funds of up to 75% of the industrial development capital, which shows Saudi Arabia's seriousness in turning this area into an industrial area (Monaha, 2016).

The importance of the two regions to Saudi Arabia is also evident in agriculture. The position of Jizan and Najran as the most productive producing areas of agricultural goods is supported by the geographical position of Jizan, which has the largest water source in Southwest Saudi Arabia. The importance of this area to Saudi Arabia is also reinforced by Jizan's role as a regular food supplier for Saudi Arabian people in the Southwest region for the last few decades (Embassy of Kingdom of Saudi Arabia, n.d.). Suppose the two regions are successfully controlled or disturbed by the Houthi group. In that case, Saudi Arabia will lose one of its national income sources, agriculture, which until 2010, contributed approximately 4.6% of Saudi Arabia's GDP (WTO, 2012).

Based on the Physical Environment, Saudi Arabia's decision to intervene militarily in Yemen was driven by the potential threat posed by the Houthi group due to the geographical proximity between Saudi Arabia and Yemen. The geographic proximity of the conflict zone to the provinces of Jizan and Najran would jeopardize security and slow progress on Saudi Arabia's significant strategic investments in manufacturing, energy, and agriculture. If it continues to drag on, then the conflict can be detrimental to Saudi Arabia due to the many efforts of the Houthi group to seek or expand operations and carry out attacks and terror acts in the border area. Another threat posed by the Yemeni civil conflict is the threat in the field of Saudi Arabia's National security. Geographical proximity to areas controlled by the Houthis can be used by a group that can endanger Saudi Arabia's national security, Al-Qaeda in the Arabian Peninsula (AQAP). The activities of the Houthi rebellion distract the Yemeni government and makes the Yemeni government unable to prevent outside parties such as Al-Qaeda from seeking asylum in Yemen or entry into Saudi Arabia from conflict-prone border areas.

In the strategic environment, a country's national character is one of the things that underlies the reason for the country to intervene in other countries. National character is vital because this character will form an idea or norm that signifies the identity of a country. The strategic environment assumes that the actions of a country in using military force will be influenced by the comprehensive psychological profile equation possessed by each conflicting party (U.S Marine Corps, 2007).

In the civil conflict in Yemen, the first thing we have to do is find out what values are the dogma underlying Saudi Arabia's decision to intervene militarily in Yemen. The dogmatic ideology for Saudi Arabia is Religion. This is evidenced by the prominent role of religious values in regulating all areas of life in Saudi Arabia. As proof, Saudi Arabia is one country that implements Islamic law, known as Sharia law. Sharia law itself is a legal provision that a Muslim must obey in all aspects of life sourced from the legal sources of the Qur'an and Hadith.

The conflict in Yemen strongly connected Saudi Arabia's character as a Sunni Islamic state. The dynamics of the conflict are motivated by competition between rebel groups from the Shia group and pro-government groups dominated by the Sunni sect. Based on the consensus, Yemen's population is not too far between adherents of Sunni and Shia sects. Consensus shows that the Sunni sects comprise 56% of the total Yemeni population, mostly occupying areas of South Yemen, and the Shia population comprises 44%, mostly occupying North Yemen (Index Mundi, 2017).

Based on the explanation in National Character, the similarity in character between Saudi Arabia and the majority of Yemen's population who have a Sunni background encourages Saudi Arabia to intervene militarily to help other countries that have the same national character. With Saudi Arabia. Dogmatic Sunni values influence Saudi Arabia's decision to intervene. This can be proven from the magnitude of the influence exerted by the Wahhabism movement in Saudi Arabia.

The next element is the War and State mechanism. The strategic theory explains that civil conflicts that occur in other countries will attract the attention of other countries. In the strategic environment assumption, the state is the sole actor with the right to monopolize the use of violence. When a country loses the ability to do this, then another country will intervene in the conflict to take over the monopoly on the use of violence in that country for itself. However, suppose the relationship between the lost state, its monopoly on violence, and the intervening state is an alliance. In that case, the state's goal, in this case, is to return the monopoly of violence to the actors who are its alliance (U.S Marine Corps).

In line with the assumption of the War and State mechanism, in the conflict that occurred in Yemen, Saudi Arabia's decision to intervene was based on the situation in Yemen, which had drastically changed. Prior to 2014, the monopoly on the use of force was always owned by the Yemeni government. After the city of Sanaa fell to the Houthis, the Yemeni government stepped down from power and lost the ability to monopolize the use of violence within Yemen.

Based on the assumptions of the War and State mechanism, Saudi Arabia's decision to intervene militarily in the conflict is to take power or annex parts of the territory that Yemen has for its possession. The loss of the state monopoly on the use of force will be an opportunity for Saudi Arabia to take advantage of the ongoing conflict. However, the assumption about the War and State mechanism is not proven in the aim of taking over power in Yemen's territory. This is evident from the actions of Saudi Arabia in the conflict, which did not take any acts of annexing Yemen's territory or taking over the leadership seat in Yemen's domestic politics. Based on the explanation above, the War and State mechanism does not influence Saudi Arabia's decision to intervene militarily in Yemen. Because Saudi Arabia only helps the Yemeni government in attacking the Houthis and does not prosecute any form of this operation.

Under the assumption of a balance of power mechanism, when a conflict occurs and threatens the distribution of power, the state will act to protect it. For the state, civil conflicts that occur in the state can threaten the balance of power at the regional and international levels. If the party that wins in the war is a party that is not pro-

state, this may weaken the state's influence and make the position of rival countries at the regional or global level stronger. One way the state can achieve this is to stop the continuation of conflict in the conflicting country (U.S Marine Corps, 2007).

In regionalism in the Middle East, the center of political power is hegemony by two major countries, namely Saudi Arabia and Iran. The rivalry between the two countries has started since the two countries were founded. In the early 1950s, the two countries were the spearhead of the United States' foreign policy in preventing the expansion of the Soviet Union's influence into the Middle East, where both countries recognized and constituted the Nixon doctrine in their foreign policy. The Nixon Doctrine is a doctrine that states that the United States will defend its allied countries from threats that disrupt peace. Iran and Saudi Arabia are the two countries that spearhead the implementation of the United States' doctrine in the Middle East.

The existence of Iran's involvement in Yemen makes Saudi Arabia view the Houthis as one of Iran's proxy efforts to weaken Saudi Arabia's influence in Yemen. So far, Yemen has a position as a country with good relations with Saudi Arabia. Over the past decades, Yemen has always prioritized receiving Saudi Arabia's foreign aid (Salisbury, 2015). Until 2010, Saudi Arabia provided development assistance funds to Yemen, amounting to US$103.9 billion, to support economic stability and development in Yemen (Smith, 2011).

Based on the analysis above, three elements of the Strategic Environment influenced Saudi Arabia's decision to intervene militarily in Yemen. However, each element has a different magnitude of influence. In this study, the authors found that the War and State mechanism's third element did not significantly influence Saudi Arabia's intervention policy. The War and State mechanism assumes that the state's actions in military intervention in other countries are to seize the power of the other countries they intervene in. In the case of Saudi Arabia's intervention in Yemen, Saudi Arabia did not commit acts of annexation or power grabs in any field for itself. In the intervention, Saudi Arabia is more likely to assist efforts in restoring the monopoly of violence from the Houthi group to the Yemeni government.

In the National Character element, the researcher finds that there are indeed similarities in the national character between Saudi Arabia and the Yemeni government in the field of the Sunni Islamic religious sect, who both have negative sentiments towards the Shia sect that is the background of the Houthi rebels. In the analysis, the researcher also found that a Wahhabi doctrine has a desire to purify Islam in one sect, namely Sunni. Although the role of Wahhabism in the government of Saudi Arabia is quite vital, the researchers did not find evidence that

was significant enough to state that the element of National Character was a factor underlying Saudi Arabia's decision to conduct a military intervention in Saudi Arabia.

In contrast to the previous elements, the Physical Environment and the Balance of Power Mechanism strongly influence Saudi Arabia's actions in conducting a military intervention in Yemen. Even so, the author finds that the Physical Environment is the most influential element in underlying Saudi Arabia's decision to intervene militarily in Yemen. In the Balance of Power Mechanism, the researcher finds that there is indeed the involvement of a third party which is the center of political power, which is Saudi Arabia's rival at the regional level, namely Iran. In the civil conflict in Yemen, there are many indications that Iran is the mastermind behind the Houthi financial and arms supply. After the fall of the city of Sanaa, based on reports obtained from various sources, Iranian troops began to enter the city of Sanaa, which the Houthis had controlled. Responding to this, Saudi Arabia stated that Iran's actions constituted Iranian military aggression, and Saudi Arabia had the right to stop such aggression.

Apart from the above, among all the elements contained in the strategic environment, only the Physical Environment directly impacts Saudi Arabia both economically and in the security sector. In the economic field, the activities carried out by the Houthi group in expanding their movement in border areas have the potential to harm investment and industrial and agricultural activities in the Jizan and Najran areas. In line with this, the conflict also threatens the activities of Saudi Arabia's oil industry through the Red Sea, which the Houthi group controls, especially around the Bab-el Mandeb bay, and forces Saudi Arabia to increase the security of oil cargo ships and even suspend oil shipments via the Red Sea. be a path closest to Europe and the United States.

In the field of security, Saudi Arabia's geographical proximity to Yemen also poses national security problems for Saudi Arabia due to the loss of government control over the development of the Al-Qaeda terrorist group. They want to make Yemen a sanctuary to develop themselves in the gulf region and penetrate the Yemeni border area to reach Arabia. Saudi. Saudi Arabia is also afraid that if this group is allowed to continue to grow, it could become a potent and threatening group in the future. The emergence of propaganda by the Al-Qaeda group to create a new base under the name Al-Qaeda in the Arabian Peninsula (AQAP), which wants to recruit members in Yemen and Saudi Arabia.

CONCLUSION

Civil conflict in Yemen has occurred since 2004. This conflict is based on the dissatisfaction of the Shia community in North Yemen, who feel the Yemeni government has discriminated against them. During the conflict, Saudi Arabia had a position as a country that supported the Yemeni government. Saudi Arabia does not have a role as a country that intervenes directly in civil conflicts, only as a state providing aid and political support to the Yemeni government. This position changed in 2015 when Saudi Arabia decided to carry out a military operation known as Operation Decisive Storm.

According to Strategic Theory, the state's actions in conducting military intervention are based on the nature of the strategic environment. A strategic environment is all the understanding that the state has of the reality that surrounds it. In the civil conflict in Yemen, the researcher found that Saudi Arabia's decision to intervene militarily was based on the potential threat posed by the Houthis to areas of Saudi Arabia adjacent to conflict areas in Yemen. Since 2014, Saudi Arabia has planned a large-scale development known as the Jazan Economic Community, which is expected to spearhead the manufacturing, energy, and agricultural industries. The activities of the Houthis potentially threaten Saudi Arabia's industrial development in the area. Another factor in Saudi Arabia's military intervention in Yemen is the presence of a third party or center of political power, Iran, a rival country to Saudi Arabia at the regional level. The interventions of the Iranian state evidence this in helping the movement of the Houthi group in Yemen.

Based on this explanation, the military intervention carried out by Saudi Arabia was based on two things: to protect the territory of Saudi Arabia, especially Jizan and Najran, from the potential threat of the Houthis and prevent Yemen from falling into the center. The political power of Saudi Arabia's rival country in the Middle East, namely Iran.

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