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THE IMPACT OF RUSSIAN TRADE SANCTIONS ON THE FERTILIZER SUPPLY CHAIN IN INDONESIA

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Abstrak

Riset ini dilakukan untuk menganalisis dampak konflik rezim sanksi perdagangan Rusia terhadap rantai pasok pupuk Indonesia dengan menggunakan konsep konflik antar-negara, perdagangan pangan internasional dan sistem pangan global. Hasilnya, peneliti melihat blokade pelabuhan Ukraina tahun 2022 sebagai aksi balasan Rusia untuk mengembalikan situasi ekonomi yang mengalami kemerosotan sejak tahun 2014. Blokade menjadi faktor pendorong dalam sistem pangan, memengaruhi stabilitas dan ketersediaan pupuk Indonesia. Gangguan rantai pasokan hanya berdampak pada lonjakan harga pupuk saat konflik, secara signifikan tidak mengakibatkan kerugian yang besar pada petani. Analisis ini didasarkan oleh temuan data impor pupuk Rusia yang justru meningkat pada tahun 2022-2023 dan respons cepat pemerintah Indonesia dalam ancaman penurunan volume pupuk serta lonjakan harga pupuk global.

Kata Kunci: *Indonesia, konflik Rusia-Ukraina, rantai pasokan pupuk, sanksi perdagangan*

Abstract

This research was conducted to analyze the impact of the Russian trade sanctions regime conflict on the Indonesian fertilizer supply chain using the concepts of inter-state conflict, international food trade and the global food system. As a result, researchers see the blockade of Ukrainian ports in 2022 as Russia's retaliatory action to restore the economic situation which has experienced a decline since 2014. The blockade is a driving factor in the food system, affecting the stability and availability of Indonesian fertilizer. Supply chain disruptions only resulted in a spike in fertilizer prices during the conflict, but did not significantly result in major losses for farmers. This analysis is based on the findings of Russian fertilizer import data which actually increased in 2022-2023 and the Indonesian government's quick response to the threat of decreasing fertilizer volumes and a spike in global fertilizer prices.

Keywords: fertilizer supply chain, Indonesia, Russia-Ukraine conflict, trade sanctions

Introduction

Maintaining the stability of the global food supply chain and international trade as a means of market distribution is the main goal of implementing the global food system. In an effort to reduce the risk of food security threats, fertilizer is a food product that plays a major role in agricultural production, helping to increase growth, health and crop yields as well as reducing environmental impacts (Imas, 2024). Special Military Operation (SMO) for short, is Russia's first military action against Ukraine in 2022 which reopens a period of physical conflict between countries involving many countries, including the European Union, the United States and NATO (North Atlantic Treaty Organization) after the annexation of Crimea in 2014. This special military operation poses several human security threats targeting the food security situation, disrupting the stability of food markets, international food trade and triggering disruptions in the global food supply chain. Based on data from the USDA (U.S. Department of Agriculture), disruptions in the food supply chain, especially fertilizers, due to the Russia-Ukraine conflict occurred due to disruptions in the flow of international trade transportation. Trade transportation which began with the blockade of Ukrainian trade ports in the Black Sea region and the increase in global energy prices resulted in the imposition of new trade restrictions. This is also the reason for the soaring price of fertilizer supplies by up to 50 percent from February to April 2022 (Kee et al., 2023).

Apart from that, the imposition of economic sanctions aimed at limiting Russia's financial and technological capabilities in the conflict by the European Union, the United States and several partner countries is also one of the reasons for the decline in the number of fertilizer imports in the global food market. The impact can be seen through a decrease in production capacity and resulting in a decrease in the number of exports of Russian products (Simola, 2022).

Analysis regarding the obstacles posed by the two countries can be drawn based on the important role of Russia and Ukraine as major exporters of food commodities. Especially Russia, which is a major exporter of fertilizers. According to OEC (Observatory of Economic Complexity) data in 2022, Russia is the world's largest fertilizer exporter (USD 18.7 billion) or 13.1 percent globally (OEC, 2022). Many countries depend on Russian fertilizer imports, not only European countries such as Finland and Estonia which depend on 70 percent of fertilizer imports from Russia

(European Parliament, 2022), countries in Asia and America which in terms of natural resources have superior agricultural products, also depends on Russian fertilizer imports. In OEC data in the same year, the two regions were the main export destinations for Russian fertilizer, the first position was dominated by Brazil, around 28.4 percent (USD 5.31 billion), then India 14.6 percent (USD 2.73 billion), America 10.4 percent (USD 1.95 billion), China 4.86 percent (USD 910 million), and Indonesia 3.73 percent (USD 699 million) (OEC, 2022).

In Southeast Asia, as a whole, many countries depend on imports of Russian-Ukrainian fertilizer and food commodities. In wheat products, Indonesia, Laos, Myanmar, the Philippines, Thailand and Vietnam are the main importers of Russia and Ukraine, while in fertilizer products, Indonesia and Brunei are the two countries with the most fertilizer imports from Russia and Belarus, with each importing 31.75 percent and 26.49 percent of the total national imports (Donnellon-may & Teng, 2023).

Indonesia is one of the countries with the highest number of fertilizer imports from Russia in the Southeast Asia region and is among the 10 largest fertilizer importing countries in the world. It is recorded that in 2021, Indonesia will spend USD 2.20 billion to import fertilizer and nationally, farmers' fertilizer supply needs will reach 13 million tons per year. However, the national fertilizer industry is only able to produce around 3.5 million tonnes per year and the remaining 6.3 million tonnes comes from imports (UPLAND, 2023).

Based on Badan Pusat Statistik (Central Statistics Agency) data, Indonesia's largest fertilizer exporters come from three countries, namely Canada, China and Russia. Statistical data for 2017-2023 shows that in 2022 Canada will be the main importer of fertilizer reaching 1.7 million tonnes, followed by China with 1.06 million tonnes and Russia with 1.030 million tonnes. The rest, Indonesia imports fertilizer from various countries such as Belarus, Vietnam, Egypt, Germany, Australia and other countries, reaching a total of 6.4 million tons (BPS, 2024a).

At the beginning of the period of the Russian military attack, there was a shortage of national fertilizer products due to a decrease in the number of Russian fertilizer imports to Indonesia, which resulted in a reduction in subsidized fertilizer announced by the government in April 2022 (Thomas, 2022). There are at least 4 types of NPK fertilizer (sodium, phosphorus, potassium) which originate from Russia and are used by farmers in

Indonesia, namely, Phonska 15-15-15 NPK fertilizer, 16-16-16 NPK fertilizer, Pak Tani 16-16 NPK fertilizer. -16, and Russian KCL fertilizer 125 (Hutagalung, 2022). NPK fertilizer itself is a type of fertilizer used by farmers in food, fruit, plantation and horticulture agriculture and is included in government subsidized products (PasarMikro, 2023). Meanwhile, dependence on fertilizer imports has been clearly explained, how the need for domestic supplies is not commensurate with the amount of domestic fertilizer production, encouraging the narrative of the threat that causes instability in global fertilizer supplies and prices due to conflicts regarding the availability and stability of fertilizer supplies for food production in Indonesia (Pupuk Indonesia, 2023).

The existence of obstacles to international food trade and the increase in fertilizer prices due to the Russia-Ukraine conflict is considered a threat to the availability of Indonesia's fertilizer supply. Through a brief description of the fertilizer supply chain disruption and its importance for Indonesia, this research tries to explain chronologically the link between Russian trade sanctions as the starting point for military operations and their impact on international food trade which directly disrupted the global fertilizer supply chain. Analyzed using a global food system framework that links all aspects of food drivers to the final result, food security. Therefore, an important question in this research refers to how Russian trade sanctions have an impact on the Russian fertilizer supply chain to Indonesia, especially on aspects of the availability and stability of domestic fertilizer supplies. In several studies related to the Russian-Ukrainian conflict, economic aspects and security studies are often raised and analyzed. Specifically, several previous studies have discussed the relevance between food supply chains and global food security threats in the Russia-Ukraine conflict. Nasir, Nugroho and Lakner in their research explored the conflict losses due to the decline in production of three food crop commodities, wheat, soybeans and corn globally, linking the impact of conflict on Russian-Ukrainian food production, prices and trade to global food security (Nasir et al., 2022).

Based on Jagtap's research regarding the impact of conflict on the food supply chain, there are six main areas in the global food supply chain that are most impacted by the Russia-Ukraine conflict. Jagtap tries to analyze the impact of conflict through the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) approach and tries to find strategic solutions in mitigating the impact of the supply chain

with an alternative food technology innovation approach (Jagtap et al., 2022). Similar to Jagtap's research, Ben Hassen and El Bilali's research tries to find solutions to restore the food system affected by the Russian-Ukrainian conflict, by highlighting the root causes of the decline in food exports, focusing on Ukraine as a food basket country. This research tries to combine the consequences of conflict regarding agricultural export restrictions, lack of human resources, immigration, and access by encouraging long-term policy reform in mitigating food system problems (Ben Hassen & El Bilali, 2022).

The impact of conflict on Indonesian fertilizer is also discussed through research. Hariadi and Yunita examine the impact of the Russian-Ukrainian conflict based on potential disparities in the financial performance of domestic fertilizer in Indonesia, by assembling the fertilizer performance situation before and when the conflict continues. This research uses the Wilcoxon Signed Rank Test using software called SPSS. As a result, researchers found that in comparison of the company's financial performance before and during the conflict, there was no significant difference (Hariadi & Yunita, 2023).

So far, research regarding the impact of the Russia-Ukraine conflict on fertilizer imports in Indonesia is still limited. Through previous literature studies, most research will address the impact on the global food market situation in general by examining the impact on several sectors. This research takes a different analytical focus by not denying the International Relations perspective in analyzing the relationship between conflict and human security. Therefore, the author tries to weave the background of the conflict through international food trade sanctions and its consequences on the fertilizer supply chain and government subsidies. The analysis will be described through the global food system framework and measured based on three factors, namely Driving Factors (Drivers), Food Supply Chain and Food Environments which will analyze their impact on the food security situation in Indonesia.

This research is important to understand the relationship between conflict and food security which is explained within the framework of the global food system. A detailed analysis will provide details of Russia's security reasons and interests in Ukraine so that it carries out special military operations which then have an impact on international trade and supply chain disruptions, especially the reduction in imports of NPK fertilizer from

Russia which will analyze the extent of the impact and whether it is able to threaten food security in Indonesia.

Methodology

Inter-state conflict

In general, conflict can be defined as a serious, generally protracted dispute or argument that occurs between countries, human groups and individuals (Bearce & Fisher, 2002). However, conflict not always due to differences in perception can give rise to hostility, which can simply be related to 'different perceptions or views on an issue or situation (Barash & Webel, 2013). It can take the form of hostility and confrontation (Henderson, 1997). In tracking conflicts that occur between countries, there is a need for a deeper analysis of indicators that define how and what influences conflicts between countries to occur, whether they originate from external or internal factors (Goertz et al., 2023).

The definition of conflict between countries by many international relations researchers is interpreted into different views, depending on the causal factors. As Bennet sees conflicts that generally occur between two or more countries as competition that occurs due to several internal factors which generally originate from the struggle for resources (Bennett, 1997). There is also an armed conflict which Dan Smith defines as an open armed clash between two parties or organized parties in a dispute over power over government and territory (Smith, 2004). Or generally known as an international conflict which can be described as a conflict between two countries or many countries whose status can change at any time to war caused by various situations, whether territorial struggles (geopolitics), breaking off diplomatic relations, or export problems that arise. triggering disputes and threatening state security (Folarin, 2013).

Based on the causes, various views, conflicts, both competitive and armed conflicts, can be triggered by several causes, summarized by Nguyen (Nguyen et al., 2023), There are at least four causes of conflict between countries, the first is trade competition or trade war (Henderson, 1997; Lake, 1992; Lake & Rothchild, 1996), both identities or ideologies (Doyle & Sambanis, 2000; Sanín & Wood, 2014), third geopolitics (territorial) (Flint, 2021), and fourth due to external events such as climate change (Burke et al., 2015). Dan Smith also stated other causes regarding the reasons that restarted conflicts and wars between countries.

In Smith's analysis, there are four main reasons that represent the outbreak of conflict between countries, the first concerns the insincerity of one of the parties or possibly both parties in resolving disputes in an agreement. Secondly, there is disappointment on the part of one of the parties or even each party in accepting a peace agreement which is only conditional. The third reason is that conflict can return with internal disputes or divisions between the conflicting parties. and the fourth looks at the situation that at any time occurs if security from third parties (external) in the conflict area is withdrawn, which allows the conflict to re-break out seeing that there is no longer any supervision from international military forces (Smith, 2004).

International Food Trade

Conceptually, international food trade does not have a universal definition that explains how the food trade occurs. However, analyzed in general, food trade is seen as a form of international trade through trade and economic cooperation between two or more countries in the trade of food products, described as a network that connects countries throughout the world through import-export flows and food commodity subsidies. international (Torreggiani et al., 2018).

According to FAO (Food and Agriculture Organizations), the behavior patterns of countries in the food trade network can be determined by local factors in agricultural production and food manufacturing. A country will be determined as an importer or exporter based on the superior natural resources it has (Kenny, n.d.). This is in line with David Ricardo's view in the "Comparative Advantage" theory which sees that countries will tend to specialize through superior natural resources to obtain efficient food production (Ricardo, 2005).

Along with the increase in food trade volume, the current shift in food trade direction is not limited to one particular region (Brown, 1975; Hathaway, 1979). Supported by a climate and geographical location that allows, for example, the European region has become a food basket for grains and established this region as the largest exporter of several staple food commodities (cereals, fertilizer, corn) on the global market (Tarrant, 1985). Exports of agricultural products, which were initially limited to meeting the basic food needs of countries in the European region, have expanded to other regions. This is what started the narrative of food dependency which occurs due to differences in natural resources and the type of food traded. International food trade is increasing and

attracting countries that are dependent and involved as participants in food market liberalization with the aim of securing adequate and varied food supplies through import-export of various food products (Kenny, n.d.).

Although agricultural trade policy technically only regulates a small portion of world trade (Clapp, 2014), Food production and trade have a close relationship through policy. Global food trade is highly distorted by domestic agricultural policies of both importing and exporting countries (Jabara, 1982; Josling, 1978). Trade networks cannot be separated from the interrelated relationships between international politics that influence the formation of trading partners and heterogeneous environmental conditions that limit a country's ability to produce certain agricultural products (Shutters & Muneepeerakul, 2012). Policy reform in food trade can be influenced by various things, from economic scale, global food market trade prices to state responses as trade measures with the aim of stabilizing domestic food (Anderson, 2010).

Policy reform as an effort to protect agricultural production, apart from exports and imports, can be carried out through the provision of agricultural subsidies as an agricultural policy instrument implemented by the government which aims to reduce the prices paid by farmers in various forms, whether financial, including fertilizers, seeds and equipment) below market prices. to protect the risk of loss for farmers and support the domestic agricultural industry (Edwards, 2018; Takeshima & Lim, 2015).

Global Food System

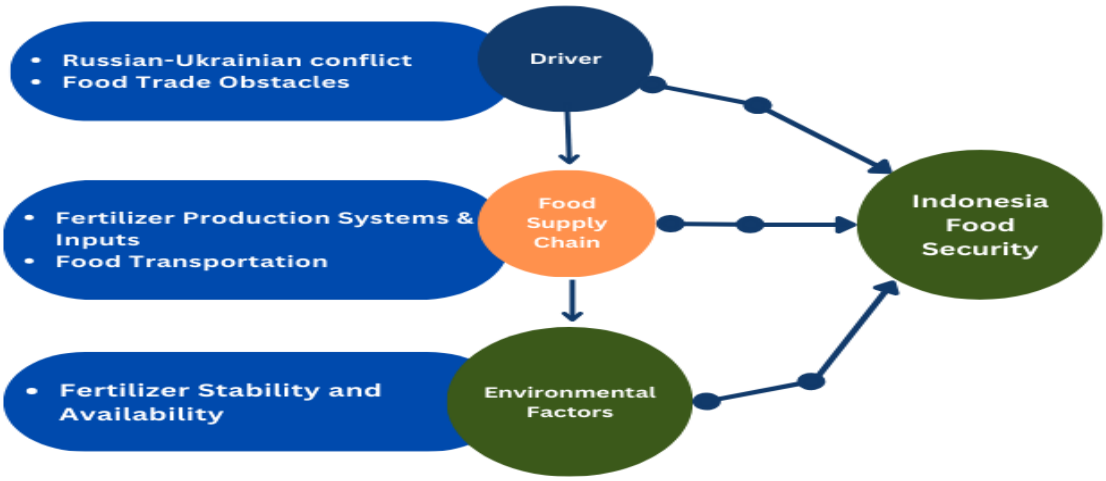
Historically, changes in the food system have been driven by the presence of city-states accompanied by rapid population growth within certain limits, so that the need for good quantity and quality of food requires complex governance (Mack et al., 2012), until the global food system narrative that is known today emerged. Along with the importance of food in global security, the direction and definition of how the food system is increasingly being updated. By FAO (Food and Agriculture Organizations) referring to the issue of hunger in the international food security forum, World Food Summit (Food Summit) Rome, 1996, the narrative about how the food system is implemented is increasingly widespread. UNDP (United Nations Development Program) sees the food system as a complex, diverse and autonomous entity depending on the stakeholders, values and perspectives of the actors involved in it (UNDP, 2024). In complex terms, the food system is presented as not limited to

a simple linear chain from farm to table but is seen as a multiphase structure with cross-interactions and provides a comprehensive framework for assessing the social, economic and environmental dimensions of sustainability (Nayak & Waterson, 2019).

Formed as a complex network in the idea of agriculture and food production and consumption, consisting of many interrelated components, from individual to individual, behavior, relationships and material goods that interact in production, processing, packaging, transportation, trade, marketing, consumption, and use of food, feed, and fiber through aquaculture, agriculture, wild fisheries, forestry, and animal husbandry (USDA, n.d.). Where this entire series of activities is carried out by various actors and is influenced by several aspects, including governance, social drivers, policies, technology, markets, environment, economics, including pressures and obstacles, the results of which can be seen in the social, economic and environmental situation (Ericksen et al., 2012; Ingram, 2011; Zurek et al., 2022).

Based on an understanding of food system activities and its supporting components, this research tries to assemble a system pattern based on the Dashboard food system framework:

Figure 1 - Adaptation of the Food Systems Dashboard Framework



The system framework divides system components into three factors, driving factors (Drivers), food supply chain, and environmental factors which are the main elements in the food system whether they produce positive or negative situations. Driving factors come from international trade flows, geopolitical conditions, urbanization is the main driving factor that influences how the food system runs. It directly affects the food

supply chain, which is from the agricultural production level to the distribution and marketing level. Continues on environmental factors which include availability and affordability. Where the results of the interaction of these three factors influence food safety (Food System Dashbord, n.d.).

Research methods

The research tries to use a qualitative approach through explanatory research techniques, namely research that explains or seeks the causes of a phenomenon. Uber Silalahi views this technique as functioning to explain why a phenomenon occurs (Silalahi, 2017). Analyzed by looking at the relationship between two or more variables which are then analyzed using theory. This research will then analyze the process of disrupting the fertilizer supply chain in Indonesia which will be analyzed more deeply from the history of Russian trade sanctions and their impact on fertilizer subsidies in the country which will be connected through theories and concepts relevant to related issues.

Discussion

Background to the Special Military Operation (SMO) and Russia's Blockade of Ukraine

The cessation of Ukrainian food trade flows and its impact on global food is one of the reasons for the disruption in food supply chains to various countries. Specifically in the fertilizer trade, trade obstacles that disrupt supply chains are analyzed as a manifestation of conflict between Russia and the sanctions regime consisting of the European Union and the G8 countries (Canada, France, Germany, Italy, Japan, Russia (suspended), the United Kingdom and the United States) in imposing trade sanctions, both banning exports and imports of goods to Russia as well as transportation sanctions (DFAT, 2023).

Based on the chronology of the sanctions provided, the sanctions regime imposed various trade bans on Russia after the illegal annexation of Crimea in 2014 (European Council, 2023a). The Russian confrontation is considered dangerous and threatens Ukraine's security. With the aim of putting pressure on Russian military aggression, trade sanctions are directly aimed at weakening economic power. Based on the Council of the European Union, these sanctions are imposed on several parties, both individually, sectorally, diplomatically and financially, which are renewed every year (OFAC, 2015).

If taken from the trade sanctions imposed by the European Union and America, the Russian attack carried out in February 2022 can be seen as a retaliatory action and Russia's attempt to restore the economic situation of the country which since 2014 has experienced losses due to trade restrictions. By Russia the first attack on Ukraine was considered a Special military Operation (SMO) with the main objective of demilitarization and denazification of Russia's neighboring countries (Aljazeera, 2024). As well as western hegemony efforts based on Russia's views have provoked Russia's neighboring countries, especially the former Soviet Union, to limit relations with Russia (Trenin, 2023).

There is also a difference between the mention of Russia's attack on Ukraine which is contrary to the western view which sees Russia's action on Ukraine as an irresponsible invasion and not a special military operation. From Russia's perspective, the SMO carried out is not an invasion if it refers to Russia's legal requirements for military attacks (Aljazeera, 2024), where SMO has a different plan from Western analysis. This operation adopted the Danube operation carried out by the Soviet Union in 1968 in Czechoslovakia, in a Russian attack plan targeting the capture of Kiev Airport, the deployment of military air forces to close the Ukrainian capital and the siege of major Ukrainian cities without hostilities and major armed resistance (Pukhov, 2024).

Based on the Council of the European Union, sanctions are also imposed on Russia's land, air and maritime transportation access, each of which aims to limit Russia's industrial and trade capacity. In land trade sanctions, the European Union provides exceptions for certain products for export, energy transportation, transportation of pharmaceutical, medical, agricultural and food products, humanitarian aid purposes, transportation related to the functions of diplomatic and consular missions of the European Union and its member states in Russia, or international organizations in Russia that enjoy immunity in accordance with international law, the transfer or export of cultural goods to Russia on loan in the context of formal cultural cooperation with Russia, cars that have diplomatic vehicle registration plates to enter the European Union or are used for humanitarian purposes and cars of European Union citizens residing in Russia and traveling to the European Union (European Commission, n.d.). These restrictions block at least 300 billion Euros of Russian Central Bank Reserves in the European Union and 70 percent of banking assets are subject to sanctions (European Council, 2023b).

Due to the economic sanctions regime, the decline in Russia's export figures has been unavoidable since 2014. The IMF (International Monetary Fund) and World Bank reported changes in Russian imports and exports that occurred from 2018 to 2023, where according to estimates the decline in Russian export figures reached -3.35 percent in the previous year and experienced a further decline to -8.70 percent in 2022. In the same year, economic sanctions also resulted in instability in Russian imports, where the import figure which was originally 2.78 percent in 2019 experienced a sharp decline in the following year 2020 until it reached -11.80 percent. Russia and its blockade of Ukraine's three main ports (Izvorski et al., 2023).

The series of economic losses resulting from the sanctions regime's restrictions on trade and financial flows against Russia can be attributed to the blockade of three Ukrainian food trade ports at the beginning of the invasion, where Odessa, Chernomorsk and Yuzhny/Pivden were trade centers on the Black Sea which at least held grain terminals. and industry towards European and Asian markets.

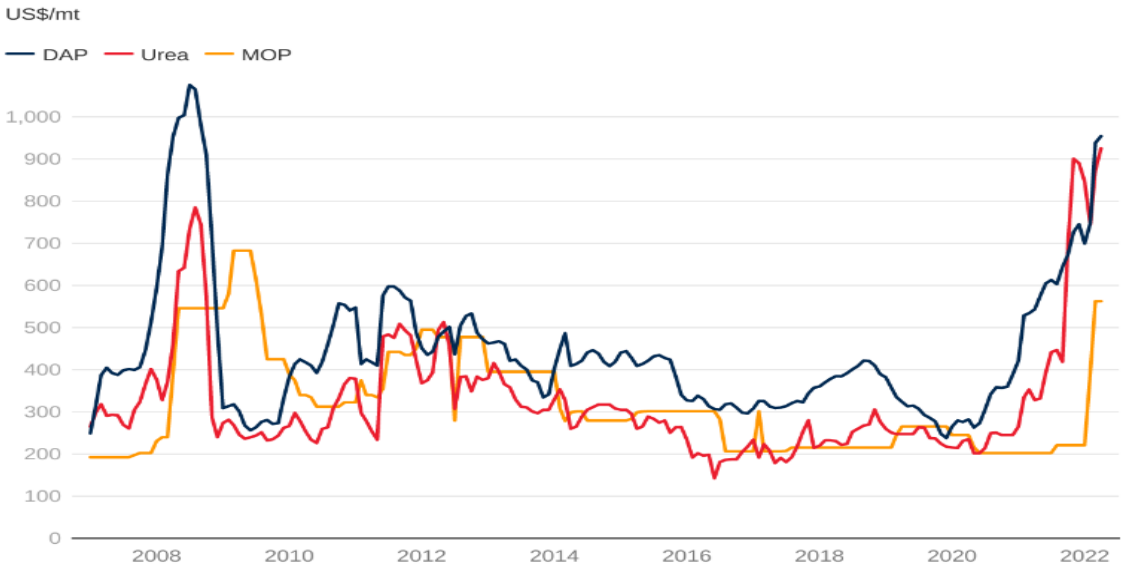
The Situation of Global Fertilizer Trade Flows during the Russian-Ukrainian Conflict

The outbreak of the conflict between Russia and Ukraine raises many security threats, including the threat to global supply chain security due to the cessation of international trade flows from Russia and Ukraine. In several reports, the geopolitical conflict between these countries presented several obstacles to food trade which had an impact on rising global food prices and inflation at the beginning of the conflict period (Steinbach, 2023). Higher inflation will likely influence price increases in several aspects, including labor wages, fuel prices and impact on lower incomes (Mishra et al., 2024). This aspect explains why the conflict between the two countries has had a significant impact on global food. The link between food-energy and markets makes it clear that access to trade networks and availability significantly influences the food security situation.

The WTO (World Trade Organizations) notes that the increase in food and energy prices in conflict situations has led to a reduction in global imports, this is the impact of economic sanctions against Russia which not only harm Russia but also directly harm its trading partner countries. This of course cannot be separated from the dependence of world countries on imported food products from Russia and Ukraine (WTO, 2022). The surge in several food commodities at the beginning of the invasion period became the world's spotlight, considering the important position of the two countries in the global

food trade market. World fertilizer prices are no exception, which according to the World Bank will increase by up to 30 percent in 2022.

Figure 2



Note: DAP = diammonium phosphate. MOP = muriate of potash. Last observation is April 2022.
Source: https://blogs.worldbank.org/en/opendata/fertilizer-prices-expected-remain-higher-longer

The increase in fertilizer prices in 2022 is a response to economic sanctions and Russian export restrictions which have resulted in disruption to the Black Sea trade route. This directly affects the amount of global fertilizer imports, of which around 16 percent of urea fertilizer comes from Russia (Baffes & Chian Koh, 2022). Become a key player as a world fertilizer exporter in 2021, ranking as the largest exporter of nitrogen (N) fertilizer, the second main supplier of potassium (K) fertilizer (with Belarus the third) and the third for phosphorus (P) fertilizer (FAO-WTO, 2022). Catalyzing protectionist actions in the fertilizer market of exporting countries to keep the country's fertilizer supply stable.

Russia-Ukraine's dependence on food imports not only has an economic impact and the availability of food supplies in European countries, but also widely attracts partner countries outside the region, including ASEAN, as threats to food security and economic stability. This is because around 9 percent of ASEAN countries' exports come from the European Union, where a total of 11 percent of foreign direct investment in ASEAN comes from the European Union (Saha, 2023). For developing countries in the Asian region, the stability of global fertilizer prices will have an impact on agricultural production conditions, this is quite clear considering that on average the superior products of Asian countries are based on agricultural products. Although not completely dependent

on Russia, the agricultural production of Southeast Asian countries is dependent on external sources of fertilizer. According to a World Bank report, Indonesia is the largest fertilizer importer in the region, following the Philippines, Myanmar and Thailand which imported more than 80 percent in 2020. Although not completely dependent on Russia, the agricultural production of Southeast Asian countries depends on fertilizer sources. external. Based on reports, Indonesia is the largest fertilizer importer in the region, following the Philippines, Myanmar and Thailand which imported more than 80 percent in 2020. This includes high dependence on phosphorus, where Myanmar, Cambodia and Brunei import 100 percent of their phosphorus needs, while Malaysia (87 percent), Thailand (75 percent), the Philippines (68 percent) and Indonesia (45 percent) (Ludher Kaur, 2023).

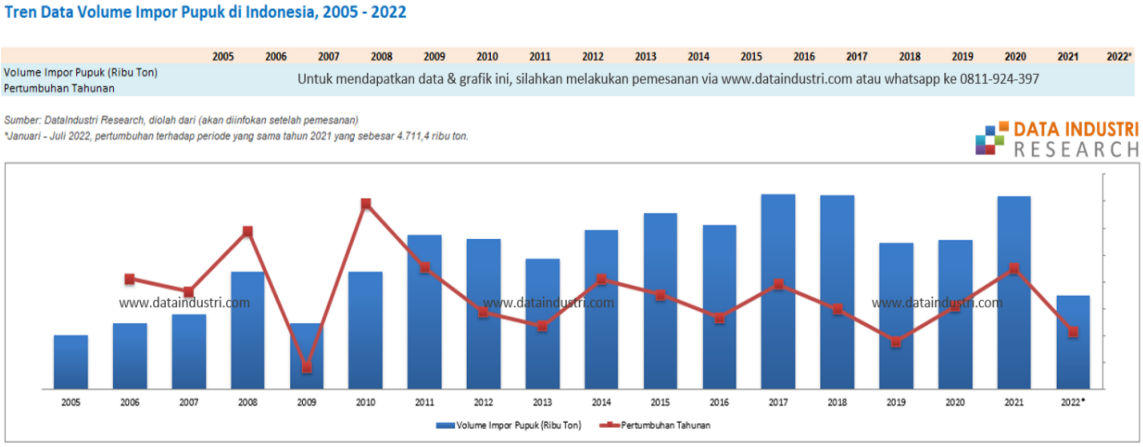
The Impact of the Ukrainian Port Blockade on Indonesia's Fertilizer Supply Chain

After Russia's invasion of Ukraine in February 2022, an analysis of the impact of the conflict on various sectors was carried out. The implications for the economy and food security are often raised as important issues considering the role of the two countries in the global food market (Marson & Saccone, 2023). In a series of events at the beginning of the conflict, disruption of trade in several superior commodities originating from the two countries created several global scale security threats, not only limited to political and economic security in the European Region which directly borders it but also attracted countries outside the Region in a detrimental situation (FAO, 2022).

Based on APPI (Indonesian Fertilizer Producers Association) data summarized by the Ministry of Industry of the Republic of Indonesia, domestic fertilizer consumption figures, especially NPK and Urea, in 2018 increased to 5 percent (Urea) and 7.88 percent (NPK), where each type There has been an increase in the amount of consumption, for the Urea type, from previously only around 5.97 million tonnes, the consumption figure has increased to 6.27 million tonnes. This also happened to NPK, which initially was only around 2.60 million tons, increasing to 2.80 million tons in 2017-2018 (Andi, 2019). Based on APPI data summarized by the Ministry of Industry of the Republic of Indonesia, domestic fertilizer consumption figures, especially NPK and Urea, in 2018 increased to 5 percent (Urea) and 7.88 percent (NPK), where each type There has been an increase in the amount of consumption, for the Urea type, from previously only around 5.97 million tonnes, the consumption figure has increased to 6.27 million tonnes. This also happened

to NPK, which initially was only around 2.60 million tons, increasing to 2.80 million tons in 2017-2018 (BPS, 2024b).

Figure 3



Source: https://www.dataindustri.com/produk/tren-data-volume-impor-pupuk-di-indonesia/

Referring to Indonesian fertilizer statistical data, according to trend data on the volume of Indonesian fertilizer imports for 2005-2022, a decline in the number of fertilizer imports occurred from January to July 2022 with total imports of only 3,907 thousand tons or a decrease of 17.1 percent compared to 2021 with total imports 4,711 thousand tons. Which then increased to 578.08 thousand tons.

The impact of Russia's invasion of Ukraine, on the other hand, is analyzed as reopening the fertilizer market for Russia to increase its domestic food export figures again. Through the Black Sea Grain initiative (BSGI) in July 2022 (Kakabadze, 2023), The joint agreement succeeded in reopening Ukraine and Russia's trade corridor after the invasion. This solidarity route significantly reduces the pressure of sanctions regime countries on Russian trade, exceptions on grain and fertilizer exports are imposed to maintain global food stability (United Nations, 2023). On the other hand, directly, Russia offers prices and quality of fertilizer to the global food market and increases the number of exports to Asian countries. With this strategy, it directly improves Russia's import and export figures (Vakulenko, 2024). As a result, based on BPS data, in 2022-2023 Russian wheat imports will increase in volume to 1.30 million tonnes and will continue to increase to 1.78 million tonnes in 2023 (BPS, 2024b).

Indonesian Government Strategy on the Issue of Fertilizer Supply Chain Constraints

Since the initial emergence of the issue of the Russian invasion and blockade which closed trade access for several food commodities including fertilizer to the global market, Indonesia as one of the importers of Russian fertilizer has faced challenges from price increases to the availability of domestic fertilizer supplies. In general, Indonesia's fertilizer supply consists of subsidized and non-subsidized fertilizer (Gemasih & Rahmadani, 2016). Where subsidized fertilizer is all types of fertilizer whose distribution and procurement are obtained from the government. Urea and NPK (Sodium, Phosphorus, Potassium) fertilizers are types of subsidized fertilizer whose supply depends on Russia for 30 percent (Bakrie et al., 2022). Indonesia's agricultural sector will be greatly impacted by the surge in global fertilizer prices, the increasing costs that farmers have to pay for fertilizer will reduce profits for farmers who do not use subsidized fertilizer. Which will have an impact on domestic food production and availability (Kementerian Pertanian, 2022).

According to Wijaya Laksana, Corporate Secretary of PT. Indonesian fertilizer, due to the conflict between Russia and Ukraine, Indonesia will continue to feel the impact of the decline in fertilizer stocks, this is due to the increase in the price of NPK fertilizer, whose import needs still depend on Russia. In terms of production, NPK type fertilizer can also be produced domestically, but it can only reach 3.5 million tons of the total national demand of around 8.6 million tons. Thus, the remaining 6.3 (74 percent) million tons require imports from other countries (Sandy, 2023).

In responding to the problem of fertilizer availability, the government is trying to maintain National Agricultural productivity and domestic supply stability through a strategy of increasing domestic fertilizer subsidies. The President of Indonesia, Joko Widodo emphasized the need for additional fertilizer subsidies to increase farmers' food production (Humas Setpres, 2023). Through this order, the allocation of additional subsidized Urea and NPK fertilizers will be carried out from June 2022 and follows the addition of subsidies for farmers through Minister of Agriculture Regulation (Regulation of the Minister of Agriculture) Number 01 of 2024 concerning Amendments to Minister of Agriculture Regulation Number 10 of 2022 concerning the determination of the allocation and highest retail price of subsidized fertilizers in 2022. 2024 budget, farmers who are entitled to redeem subsidized fertilizer can redeem organic fertilizer and then

Minister of Agriculture Decree (Decree of the Minister of Agriculture) number 249 of 2024 and (DPR RI, 2024). The subsidized fertilizer in this program is aimed at nine basic and strategic food commodities, namely rice, soybeans, corn, onions, garlic, chilies, sugar cane, cocoa and coffee (Limanseto, 2022).

Based on Pupuk Indonesia's report, this subsidy allocation will at least increase the supply of subsidized fertilizer for farmers in several regions. Based on distribution data, a total of 1,211,550 million tonnes of subsidized fertilizer supplies were distributed by the government in West Java Province, in detail, NPK amounting to 475,555 thousand tonnes including special formula NPK, urea amounting to 634,660 thousand tonnes, and organics amounting to 101,005 thousand tonnes. Meanwhile, in Central Java Province, the subsidized fertilizer previously allocated was 428,472 thousand tons, with the subsidy amount increasing to 278,369 thousand tons. So the total fertilizer allocation is 706,841 tons for 2024, where additional production capacity for Kujang fertilizer (domestic) is also increased to reach 200,000 thousand tons per year for NPK fertilizer and 140,000 thousand tons of Urea fertilizer (Pupuk Indonesia, 2024).

Conclusion

There are so many discussions about the impact of food security in the cases of Russia and Ukraine, but very few try to link conflict and food security using a detailed global food system framework. This research explores more deeply the traditional security perspective through state security from a Russian perspective. Pulling the problem from upstream to downstream before concluding how the conflict between the two countries ultimately had an impact on global food security. Directly, researchers continue to focus on the landscape of international relations in looking at global issues, not only from the root of the problem, which returns to state security.

The research contribution is adding new understanding in looking at conflict and studying food security more deeply. Trying to explain the driving factors (conflict) and the subsequent pathways to achieving food security within a food system framework which is little explained by many researchers on this issue. Furthermore, on food security with reduced fertilizer imports, it clearly summarizes and provides an analysis of the situation and strategic efforts to handle the shortage of fertilizer supplies in Indonesia by the government, which then provides several final conclusions.

Based on the history of the conflict between Russia and Ukraine, it is concluded that the pressure of economic sanctions imposed by the European Union and sanctions regime countries on Russia in 2014 resulted in economic losses for Russia. This directly became one of the reasons for Russia to invade Ukraine in order to reduce the pressure of the trade sanctions imposed.

The blockade of Ukraine's three main ports not only resulted in obstacles to world grain trade, but also had an impact on the global fertilizer supply chain. Based on the history of the conflict between Russia and Ukraine, it is concluded that the pressure of economic sanctions imposed by the European Union and sanctions regime countries on Russia in 2014 resulted in economic losses for Russia.

This is directly one of the reasons for dissatisfaction with Russia due to trade restrictions and pressure from western countries in the conflict between Russia and Ukraine. The special military operations (SMO) launched in 2022 that directly targeted key points of Ukrainian trade and sanctions regime countries demonstrate Russia's efforts to confront and in response to blocking European food grains which can then be linked to reducing the pressure of imposed trade sanctions specifically on Russian food exports when the Black Sea Grain initiative was implemented.

Russia's blockade of Ukraine's three main ports not only resulted in obstacles to world wheat trade, but also had an impact on the global fertilizer supply chain. Russia, as the third largest fertilizer exporter in Indonesia, experienced a decline in import volume in 2022, which had an impact on domestic fertilizer consumption figures up to 17.1 percent compared to the previous year, 2021.

In contrast to the focus of discussions on wheat in the conflict situation between Russia and Ukraine, looking at research data, the opening of the BSGI (Black Sea Grain Initiative) route provides opportunities not only for Ukraine in wheat exports but also for Russia in expanding the fertilizer market. It is proven that there will be an increase in the volume of fertilizer imports from Russia to Indonesia in 2022-2023 compared to the previous year based on data from the Central Statistics Agency. Showing that, trade constraints do not significantly harm fertilizer imports from Russia.

On the other hand, the Indonesian government's quick response in overcoming the situation of decreasing supplies of Russian fertilizer is also one of the reasons the fertilizer supply situation does not pose a major threat to farmers. On the other hand, the

government's strategy of subsidizing fertilizers due to conflict opens new alternative solutions for domestic fertilizer producers to secure domestic fertilizer supplies in order to avoid the impact of the conflict between Russia and Ukraine on global food markets in the future.

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