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## DESCRIPTIVE OF QUANTITATIVE DATA | SUPPLEMENTARY

## Analysis of Food Geopolitical Threats to Food Sustainability in East Kalimantan: Challenges, Obstacles and Discourse on Food Sustainability Resilience

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**Abstract:** An Analysis of Food Geopolitical Threats to Food Sustainability in East Kalimantan reveals the significant impact of global geopolitical dynamics on food availability and market prices at the local level. The Russia-Ukraine war and the U.S.-China trade war are decisive factors affecting the dependence of Indonesia, especially East Kalimantan, on food imports from certain countries such as India, Thailand, Vietnam and Pakistan. Vulnerability to fluctuations in global food markets creates serious challenges to food stability at the local level. Challenges and constraints to food security in East Kalimantan Province include climate change, land conversion, extreme weather variability, deforestation, river pollution and social conflict. These factors threaten agricultural productivity and point to the need for mitigation efforts. Lack of agricultural infrastructure, poor transportation access, and farmers' limited access to modern agricultural technology and knowledge are also major obstacles that need to be overcome. In an effort to maintain food security, the local government has taken strategic steps, including a commitment to suppress land conversion and strengthen agricultural areas. The 2021-2026 Regional Medium-Term Development Plan (RPJMD) shows the government's commitment to achieving these goals. However, this sustainability must be implemented seriously, as failure could trigger conflicts between stakeholders such as local farmers, mining companies and local governments. The importance of sustainability in the context of food security in East Kalimantan is illustrated by the government's efforts in preparing the archipelago's capital region as a place for massive food production. Conventional and urban farming approaches utilizing modern agricultural technology show the seriousness in finding sustainable solutions. To overcome challenges and prevent conflicts, serious and comprehensive cooperation between the government, local farmers and the industrial sector is needed. Sustainability of food security requires sustainable policy implementation, investment in agricultural infrastructure, and empowerment of farmers. This will have a positive impact on the socio-economic stability of the community and minimize the potential for conflict at the local level such as East Kalimantan and ensure political and economic stability at the local level.

**Keywords:** Food Geopolitics, Threats, Challenges, Food Sustainability, East Kalimantan.

### 1. INTRODUCTION

Food geopolitics is a phenomenon that has a significant impact on the food sustainability of a region or country. This analysis will focus on the situation of East Kalimantan, Indonesia, which faces challenges and obstacles in achieving food sustainability. World and national geopolitical conditions, along with internal factors, will be explored to develop a comprehensive understanding of the issue. In various global contexts, food geopolitics is influenced by expansionist strategies, resource control and open wars between states. The war between Russia and Ukraine has shown its impact on world food supplies, particularly wheat. Global food scarcity creates pressure on importing countries such as Indonesia. Therefore, understanding global geopolitical dynamics is key to planning food sustainability at the local level.



According to the Presidential Cabinet Secretariat (2023) President Joko Widodo highlighted that Indonesia faces two major food-related threats, namely climate change and the world geopolitical situation. Rising temperatures, droughts and wars between food-producing countries could result in food scarcity in Indonesia. This is the premise that food sustainability in East Kalimantan is not only influenced by local factors, but also by global and national dynamics.

East Kalimantan, as part of Indonesia, may be affected by the expansionist strategies of food-producing countries. Dependence on food imports may make the region vulnerable to global geopolitical fluctuations. The availability of agricultural resources and infrastructure in East Kalimantan is a key factor. A tactical vision that includes a detailed work plan for the development of infrastructure supporting food production, such as irrigation and reservoirs, is essential to improve food security. There are several issues and phenomena that can be followed up through in-depth analysis, namely Human Resources Issues and the Political Economy of Food in East Kalimantan. Challenges related to human resources in the agricultural sector, in particular the lack of education among farmers, can hinder modernization and increased productivity. In addition, in a political economy context, food is considered a strategic commodity. Control over food production and distribution creates political power.

Therefore, there needs to be a review of regulations and trade laws to maintain food sustainability. do not let the discourse on food security and food sustainability in East Kalimantan be limited to mere discourse which actually creates more complex problems and dilemmas. So that this research in the future is considered to have a strong urgency in following up on food geopolitics which today has major implications for food sustainability in Indonesia, especially East Kalimantan. Factors such as expansionist strategies, resource control, and political economy issues need to be considered in food sustainability planning. Infrastructure development, farmer empowerment and education may later become interesting findings and be key in overcoming the challenges and obstacles facing the region. A holistic and sustainable tactical vision is needed to maintain food availability in East Kalimantan and ensure political and economic stability at the local level.

## 2. LITERATURE REVIEW

### 2.1. Definition of Geopolitics

Based on a dictionary The Penguin Dictionary of International Relations states that geopolitics is a method of studying a country's foreign policy through factors such as place, demography, resources, nature, and climate (Gonggong, 2017). so that according to Blanchard & Flint (2017) defines geopolitics as a combination of practices and representations that change the political environment and influence the understanding of the world with labeling. this is reinforced by a study according to Suradinata (2001) which defines geopolitics as a discipline that studies the relationship between geography, strategy, and politics as a national strategy.

### 2.2. Post-Second World War Geopolitics

The study of geopolitics emerged as a discipline after the Second World War, which noted the dominance of the Soviet Union and the United States. Hochberg & Sloan (2017) highlight this era as a period where the United States became a major player after the collapse of the Soviet Union. This dominance encompassed global strategies and resource conflicts during the Cold War.

### 2.3. China's Role in Global Geopolitics

A significant development occurred in the early 2000s with the emergence of China as a global economic power. China's "One Belt One Road" project, consisting of the Maritime Silk Road Initiative (MSRI), demonstrated its geopolitical ambitions in restructuring the global political

environment and space (Blanchard & Flint, 2017). Geopolitics in the Context of "One Belt One Road". China's geopolitical ambitions, as seen in the "One Belt One Road" project, include geographic, strategic and political dimensions (Gonggong, 2017). The project represents a transformation in global relations and a reshaping of political space.

#### 2.4. *The Role of Global Geopolitics on ASEAN Countries and Indonesia*

Based on various literature traced by researchers, it is said that global geopolitics will greatly affect developing countries, especially Indonesia. As said by Margulis, (2014) in his research entitled *Trading out of the global food crisis? The World Trade Organization and the geopolitics of food security*. Geopolitics, this research indicates that global geopolitical changes have a significant impact on food security in developing countries, with a special focus on Indonesia. An important point is the challenges faced by Indonesia, such as global commodity price fluctuations and changes in trade policies. Reinforced by Neilson & Wright's (2017) research analysis entitled *The state and food security discourses of Indonesia: Feeding the nation*, this research highlights the relationship between climate change and global food security. Interestingly, this research tries to integrate global geopolitical aspects into understanding the impact of climate change on food production in Indonesia, including the analysis of extreme weather data. Supported by Glasser et al (2022). *The geopolitics of climate and security in the Indo-Pacific*. This study specifically explores the relationship between international trade, geopolitics, and food security in Asia, especially Indonesia. Its focus on analyzing the climate impact of global trade policies on Indonesia's food import and export flows, creates a deeper understanding of the challenges and opportunities at the international level. reinforced in uglie, K. O & Piggott's (2006) research entitled *Indonesia: coping with economic and political instability*, says that the impact of global political instability on agricultural production in Indonesia. By detailing case studies of political conflict and how it affects the agricultural sector, this article may identify vulnerable points in the agricultural system. Chandra & Lontoh (2010) in their research entitled *Regional food security and trade policy in Southeast Asia: The role of ASEAN*. This study evaluates the role of ASEAN in improving food security in the Southeast Asian region, including Indonesia. The analysis highlights regional cooperation efforts in addressing food-related geopolitical pressures, providing a broader perspective on potential solutions. That is, based on the literature as a whole, it shows that global geopolitics play an important role in determining Indonesia's food security through various aspects, including commodity price fluctuations, climate change, trade policies, political instability and regional cooperation. This study provides an in-depth understanding of the complexity of these factors in the context of developing countries' food security.

### 3. RESEARCH DESIGN AND METHOD

#### 3.1. *Type of Research*

This research is a qualitative research through Literature Review approach that aims to analyze geopolitical threats to food sustainability in East Kalimantan. Qualitative research through a literature review approach was chosen because this research emphasizes a deeper understanding of the challenges, obstacles, and discourses of food sustainability resilience in the region since the data obtained are mostly secondary data, but researchers also need additional data to strengthen the analysis through interviews with relevant stakeholders. These approaches allow researchers to explore a deeper and contextual understanding of food geopolitics issues.

#### 3.2. *Research Focus*



The focus of this research will cover several important aspects related to the analysis of geopolitical threats to food sustainability in East Kalimantan, such as:

1. Geopolitical Threat Analysis. Assess various geopolitical threats that may affect food sustainability, such as changes in trade policies, political instability and other factors related to geopolitics.
2. Challenges and Obstacles. Identify and analyze concrete challenges and obstacles faced in securing food supply amidst geopolitical dynamics. These may include factors such as commodity price fluctuations, policy uncertainties and climate change impacts.
3. Discourse on Food Sustainability Security. Analyze the discourses and views that have developed in the context of food sustainability security in East Kalimantan. This involves understanding the views of the government, communities and other stakeholders.

### 3.3. Research Subjects

The research subjects involved various parties related to food security in East Kalimantan. Some potential subjects include local farmers, local government representatives, business actors in the food supply chain, and affected local communities.

### 3.4. Data Collection Technique

Data collection will be done through several techniques, including:

1. Interviews. Involve interviews with key stakeholders to get their views on geopolitical threats to food sustainability.
2. Observation. Direct observation of conditions on the ground, such as agricultural practices, food distribution and related infrastructure.
3. Document Analysis. Study of documents, including government policies, agricultural reports, and related publications that can provide insight into geopolitical threats.

### 3.5. Data Analysis Method

The data analysis process will involve several steps, such as:

1. Data Condensation. The process of simplifying and abstracting data that has been collected from various sources.
2. Geopolitical Threat Categorization. Categorize data related to food geopolitical threats into certain categories for more focused analysis.
3. Analysis of Challenges and Barriers. Identify and analyze challenges and barriers that arise from the data collected.
4. Food Security Discourse Development. Analyze various views and discourses related to food security to formulate overall findings.
5. Verification of Conclusions. Verify and validate the results of the analysis by comparing with related literature and discussing the findings with relevant experts.

## 4. RESULT AND DISCUSSION

### 4.1. Geography of East Kalimantan Province

Kabupaten Kutai Kartanegara is the closest with a distance of 30.20 km from Samarinda, while Kabupaten Berau is the farthest with a distance of 523.00 km from Samarinda. The last piece of information presented is the number of villages/sub-districts by district/city and geographical location from 2014 to 2021, which shows the distribution of population in coastal (seaside) and non-coastal (non-seaside) areas.



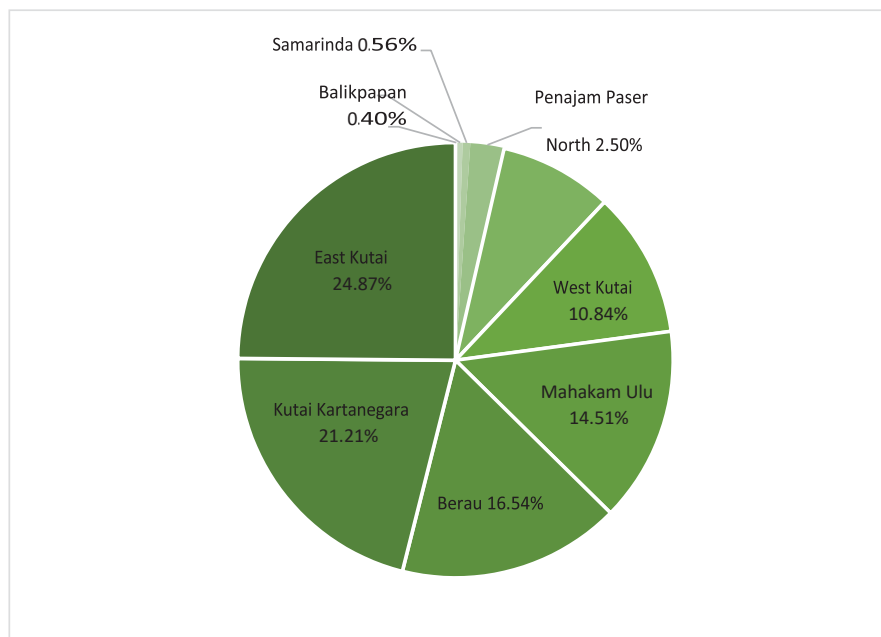


Figure 1. Graph of Area by District/City in 2024

This data provides a comprehensive overview of climatic conditions at the BMKG station over the two-year period, including temperature, humidity, wind speed, air pressure, rainfall, number of rainy days and sunshine.

Table 1. Climate of East Kalimantan Province in 2023

Climate Elements	2022	2023
(1)	(2)	(3)
BMKG Station		
Temperature (0C)		
Minimum/Minimum	21,10	20,80
Average/Average	27,60	28,00
Maximum/Maximum	35,60	36,00
Humidity (%)		
Minimum/Minimum	46,50	33,70
Average/Average	82,00	92,10
Maximum/Maximum	98,30	98,40
Wind Speed (knots)		
Wind Velocity (knots)		
Minimum/Minimum	3,30	2,60
Average/Average	3,70	3,60
Maximum/Maximum	36,00	44,00
Air Pressure (mbar)		
Atmospheric Pressure (mbar)		
Minimum/Minimum	1.007,90	1.008,50
Average/Average	1.011,50	1.012,50
Maximum/Maximum	1.014,40	1.016,30
Total Rainfall (mm)		
Number of Precipitation (mm)	2.696,90	1.827,50
Number of Rainy Days (days)		
Number of Rainy Days (day)	309,00	100,00
Solar Irradiance (%)		
Duration of Sunshine (%)	41,00	46,00

This research was conducted at PT Mahassar Tridaya. The data used in this study were collected through the distribution of questionnaires. The poll was delivered directly to 25 highly durable representatives, 20 contract workers, and 5 part-time representatives.

#### 4.2. Demographics of East Kalimantan Province

Most of East Kalimantan's population is concentrated in three main regions, namely Samarinda City, Kutai Kartanegara Regency, and Balikpapan City, which account for more than half of the total population. These regions account for 58.46 percent of the population, while the remaining 41.54 percent is spread across seven other districts/municipalities. The region with the lowest percentage of the population is Mahakam Ulu District, which accounts for only 0.85 percent of the total population of East Kalimantan in 2024.

**Table 1. Population Growth Rate of East Kalimantan Province**

District/City Regency/Municipality	Population (thousand)		
	2020	2023	2024
(1)	(2)	(3)	(4)
District/Regency			
1. Paser	275,45	284,11	286,99
2. West Kutai	172,29	177,13	178,74
3. Kutai Kartanegara	729,38	756,79	789,77
4. East Kutai	434,46	455,50	462,99
5. Berau	248,04	258,29	261,83
6. Penajam Paser Utara	178,68	197,63	267,69
7. Mahakam Ulu	32,51	33,77	34,25
City/Municipality			
1. Balikpapan	688,32	710,04	717,23
2. Samarinda	827,99	850,63	858,08
3. Bontang	178,92	185,85	188,29
East Kalimantan	3.766,04	3.909,74	4.045,86

On the other hand, Balikpapan, as a city/municipality, has the highest average income per month, at IDR 4,261,717.

**Table 2. Revenue per district/municipality in East Kalimantan as of 2023**

District/Regency				
1. Paser	3.244.333	5.637.780	3.024.508	3.936.489
2. West Kutai	3.410.857	5.037.140	3.367.850	3.731.230
3. Kutai Kartanegara	3.101.891	4.949.588	3.034.903	3.832.909
4. East Kutai	4.358.067	7.301.119	4.032.213	5.107.640
5. Berau	3.552.463	5.648.930	3.448.840	4.325.190
6. Penajam Paser Utara	2.794.721	3.971.142	3.139.329	3.252.530
7. Mahakam Ulu	4.178.767	4.004.324	3.308.195	3.524.200
City/Municipality				
1. Balikpapan	2.659.595	4.547.955	4.164.838	4.261.717
2. Samarinda	3.459.419	4.298.029	3.477.945	3.680.786
3. Bontang	2.449.802	6.099.314	4.030.555	4.547.650
East Kalimantan	3.438.830	5.136.019	3.629.542	4.068.893

4.3. Geopolitical Analysis of Food in East Kalimantan

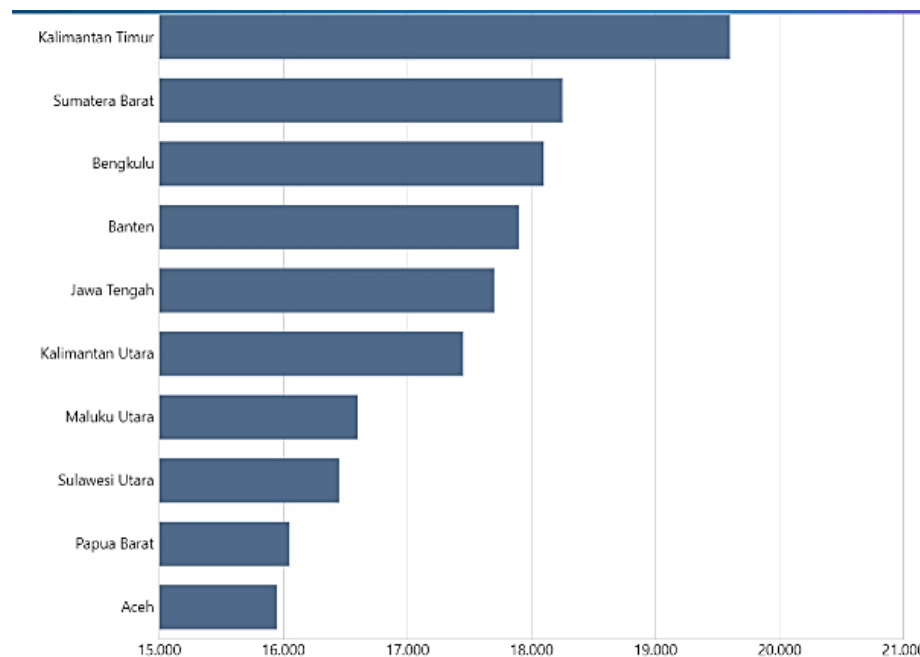


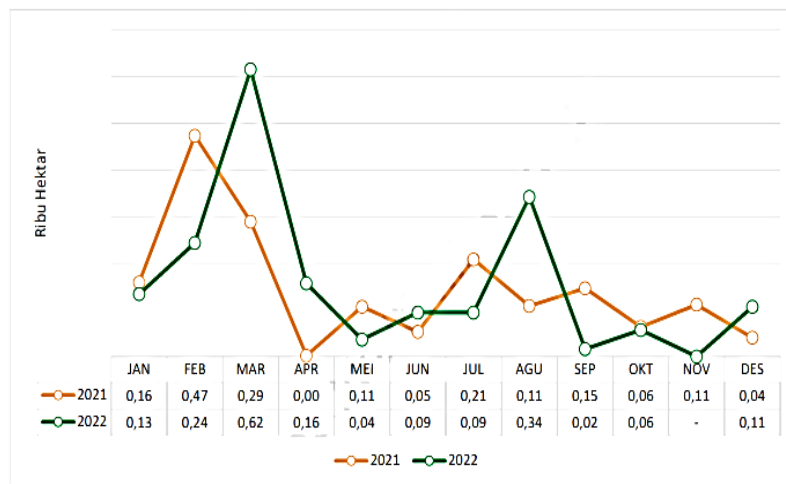
Figure 2. Graph of Rice Inflation in Various Regions in Indonesia as of February 25, 2024

Table 3. Food Commodity Prices in East Kalimantan as of March 4, 2024

Commodities	29-Feb-24	01-Mar-24	04-Mar-24
Medium Rice	IDR 14,163	IDR 14,163	IDR 14,188
Premium Rice	IDR 16,744	IDR 16,744	IDR 32,169
Cheapest Rice	IDR 12,200	IDR 12,200	IDR 12,200
Fine Salt	IDR 6,500	IDR 6,500	IDR 6,500
Bulk granulated sugar	IDR 18,000	IDR 18,000	IDR 18,000
Imported Soybeans	IDR 20,000	IDR 20,000	IDR 20,000
Bulk Cooking Oil	IDR 14,600	IDR 14,600	IDR 14,600
Broiler Eggs	IDR 32,000	IDR 32,000	IDR 32,000
Medium Protein Wheat Flour	Rp 14,000	IDR 14,000	Rp 14,000
Packaged Cooking Oil	IDR 20,250	IDR 20,250	IDR 20,250
Green Beans	IDR 27,000	IDR 27,000	IDR 27,000
Peanuts	IDR 30,500	IDR 30,500	IDR 30,500
Sweetened Condensed Milk	IDR 12,000	IDR 12,000	IDR 12,000
Hometown Chicken Eggs	IDR 55,000	IDR 55,000	IDR 55,000
Low Protein Wheat Flour	IDR 13,000	IDR 13,000	IDR 13,000
High Protein Wheat Flour	IDR 15,000	IDR 15,000	IDR 15,000
Instant Noodles	IDR 3,300	IDR 3,300	IDR 3,300
Red Onion	IDR 35,000	IDR 35,000	IDR 35,000
Garlic	IDR 40,000	IDR 40,000	IDR 40,000
Breed Chicken Meat	IDR 24,000	IDR 22,000	IDR 22,000
Local Fresh Beef	IDR 155,000	IDR 155,000	IDR 155,000
Frozen Imported Beef	IDR 120,000	IDR 125,000	IDR 125,000
Cassava Trees	Rp 9,000	Rp 9,000	Rp 9,000
Large Red Chili	IDR 80,000	IDR 80,000	IDR 85,000
Curly Red Chili	IDR 55,000	IDR 60,000	IDR 60,000
Red Cayenne Pepper	IDR 50,000	IDR 50,000	IDR 60,000
Green Cayenne Pepper	IDR 60,000	IDR 60,000	IDR 65,000

#### 4.4. Challenges and Barriers to Food Security in East Kalimantan

Regions with the largest total area of potential crop failure in 2022 are North Penajam Paser Regency, Kutai Kartanegara Regency, and Paser Regency, while the smallest total area of potential crop failure is in West Kutai Regency, Balikpapan City, and Bontang City. This shows the difference in agricultural conditions and the impact of natural disasters between these regions.



Sumber: BPS, Kerangka Sampel Area

Figure 3. Development of Potential Harvest Failure Area in 2021-2022

The distribution of the number of IUK in East Kalimantan is as follows:

Table 4. Data on mining business licenses in East Kalimantan

City	Number of IUPS/IUP
Samarinda	63 IUPS
Kutai Kartanegara	625 IUP
East Kutai	161 IUP
West Kutai	244 IUPS
Paser	67 IUPS
Penajam Paser Utara	151 IUPS
Berau	93 IUP

#### 4.5. Discussion

Based on the findings of the above results, the researcher will discuss comprehensively, speaking of food geopolitics in East Kalimantan today, clearly has dimensions that can be seen from various policy, natural resource, economic and social perspectives, which clearly play a key role in understanding the dynamics of food production, distribution and consumption in the East Kalimantan region. As one of the provinces with abundant natural resources, East Kalimantan has the potential to support regional food security, however, the challenges and obstacles faced require a careful and coordinated approach.

First of all, in terms of policy, local governments have an important role in regulating resource allocation and promoting sustainable agricultural development. However, climate change and land conversion have altered the agricultural landscape in East Kalimantan. While climate change affects weather patterns and growing seasons, land conversion from agriculture to non-agricultural sectors such as industry and mining reduces the area of available agricultural land. From a geopolitical perspective, control over natural resources, including food production, is a decisive factor in determining the power of a region. In this regard, control over agricultural land and policies related

to food production have significant implications for regional power dynamics. Policy strategies that take into account environmental sustainability, food sovereignty and social justice are crucial in formulating steps towards sustainable food security. Furthermore, in the context of international political economy, dependence on food imports can increase a region's vulnerability to global price and supply fluctuations. East Kalimantan, despite having the potential to produce most of its food needs, still relies on imports to fulfill some of its food needs. This suggests the need for policies that reduce dependence on food imports and increase local production as a step towards more independent food security. In achieving food sustainability, a sustainable approach that includes increasing investment in agricultural infrastructure, developing sustainable agriculture and empowering local farmers is necessary. In addition, efforts to increase local food production, reduce dependence on food imports, and strengthen sustainable agricultural systems should be the main focus in formulating policy strategies to achieve sustainable food security in East Kalimantan province.

The researcher will also argue that in formulating a discourse on the sustainability of food security in East Kalimantan, it is important to consider the potential conflicts that may arise as a result of the implementation of agricultural policies and practices. Conflicts can arise from a variety of sources, including competition over natural resources, land use change, and social and economic inequality. One conflict that may arise is competition over natural resources between the agricultural sector and other sectors such as mining and industry. Changes in land conversion from agriculture to non-agricultural sectors can trigger tensions between different stakeholders, including local farmers, mining companies and local governments. To avoid such conflicts, a sustainable approach is needed that takes into account the interests of all parties and promotes partnerships between sectors to achieve the common goals of maintaining food security and environmental sustainability. Changes in agricultural practices that impact the traditional rights of indigenous peoples or local farmers can also trigger conflicts. For example, the use of modern agricultural technologies that require large tracts of land and chemical inputs can threaten the environmental sustainability and traditional livelihoods of local communities. In this case, it is important to involve local communities in decision-making processes and ensure that implemented agricultural policies and practices respect traditional rights and environmental sustainability.

Unequal access to resources and social and economic disparities can also be triggers for conflict in the context of food security. If food distribution is unequal or food prices are unaffordable for some people, this can increase social tensions and potential conflicts within communities. Therefore, it is important to ensure that food security policies not only focus on increasing production, but also on fair and inclusive distribution and improved access to food for all levels of society. In maintaining the sustainability of food security in East Kalimantan, conflict mitigation must be an integral part of the policy strategy. This involves dialogue between all stakeholders, careful monitoring of the social and environmental impacts of agricultural policies, and capacity building to facilitate peaceful and sustainable conflict resolution. With a holistic and inclusive approach, conflicts that may arise can be avoided or effectively managed, thus enabling the realization of sustainable and peaceful food security in East Kalimantan. Based on the findings already discussed, from a number of references collected, the analysis of food geopolitics in East Kalimantan Province highlights the complexity of challenges and opportunities in achieving sustainable food security. References by Brown (2011) and Sommerville et al. (2014) underline the role of global geopolitics and food crises in shaping food supply and price dynamics at the international level. Meanwhile, Margulis (2014) highlights the role of world trade organizations, such as the World Trade Organization (WTO), in the geopolitics of food security.

The analysis becomes more relevant in the context of Indonesia and East Kalimantan with reference to Hamilton-Hart (2019) who discusses Indonesia's efforts to achieve food self-sufficiency. However, as a province rich in natural potential, East Kalimantan also faces serious constraints, such as climate change and land conversion that could threaten local food security (Hamilton-Hart, 2019; Sen, 1981). East Kalimantan's dependence on food imports, especially with the integration of global

markets, is a focus of attention emphasized by Frank (1967) and economic dependency theory. Within this framework, the need for a sustainable approach, as highlighted by Sachs (2015) and sustainable development theory, becomes essential in facing challenges and capitalizing on potentials to achieve holistic food security. The important role of local government policies in managing natural resources and supporting sustainable agriculture is highlighted by Hamilton-Hart (2019). However, conflicts that may arise, such as competition between the agricultural sector and the industrial or mining sectors (Vel et al., 2016), point to the need for approaches that consider the interests of all parties and promote partnerships between sectors. In this context, unequal access to resources and potential social and economic tensions, as discussed by McCarthy (2017) and Paarlberg (2013), highlight the importance of equitable and inclusive food distribution in sustainable food security strategies. As a common thread, this illustrates that food security challenges in East Kalimantan are not only local, but also linked to global geopolitical dynamics. In order to achieve sustainable food security, there needs to be synergy between government policies, sustainable agriculture efforts, and active engagement of all stakeholders to address the complexity of the challenges.

## 5. CONCLUSION

Based on the findings described above, related to the Food Geopolitical Threat Analysis on Food Sustainability in East Kalimantan, it can be concluded that global geopolitical situations, such as the Russia-Ukraine war and the trade war between the United States and China, have a significant impact on the availability and price of food markets globally. These impacts then affect the dependence of Indonesia, including East Kalimantan, on food imports from certain countries such as India, Thailand, Vietnam and Pakistan. This indicates significant vulnerability to global food market fluctuations that may affect food stability at the local level. In terms of Challenges and Obstacles, food security in East Kalimantan Province is affected by several factors. Climate change and land conversion from agricultural to non-agricultural sectors, such as industry and mining, threaten agricultural productivity in East Kalimantan. Extreme weather variability, deforestation, river pollution, and social conflicts due to land use change are serious challenges in maintaining food security. In addition, the lack of adequate agricultural infrastructure, such as irrigation networks and poor transportation access, as well as farmers' lack of access to modern technology and up-to-date agricultural knowledge, are also obstacles that need to be overcome. In the context of the Food Security Sustainability Discourse in East Kalimantan Province, the local government has taken a commitment to suppress land conversion in order to maintain paddy fields and plantations as important assets for national food security. There are efforts to strengthen five agricultural areas in order to meet food needs in the region, as stated in the 2021-2026 RPJMD. Strategic steps are also being taken to ensure food security in the archipelago's capital region, by setting up several districts/cities as places for massive food production, both through conventional approaches and through urban farming that involves using land in various places, including home yards and rooftops, by utilizing modern agricultural technologies such as hydroponics. However, when these sustainability efforts fail, it can lead to conflicts between various stakeholders, such as local farmers, mining companies and local governments. Uncertainty and instability in terms of food security can worsen the socio-economic conditions of communities and increase the potential for conflict at the local level. Hence, there is a need for serious and comprehensive efforts to address challenges and obstacles and promote the implementation of sustainability in the context of food security in East Kalimantan. This requires cooperation between the government, the private sector and the community at large to achieve this goal.

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