

# State Capital Relocation and National Rice Field Prospects: Indonesian Agricultural Politics in an Era of Disruptive Innovation

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## State Capital Relocation and National Rice Field Prospects: Indonesian Agricultural Politics in an Era of Disruptive Innovation

### Relokasi Ibu Kota Negara dan Prospek Persawahan Nasional: Politik Pertanian Indonesia di Era Inovasi Disruptif

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#### ABSTRAK

Bagi Indonesia, pemindahan ibu kota negara merupakan salah satu pilihan untuk meningkatkan ketahanan pangan. Meski secara statistik, program unggulan kementerian pertanian itu tampaknya berhasil meningkatkan ekspor. Kebijakan anggaran justru menyusut di lapangan, dan lahan pertanian tergerus. Selain itu, negara terus mengimpor sejumlah komoditas strategis seperti beras dan kedelai. Tantangan era disrupsi inovasi harus dihadapi dengan optimisme. Tulisan ini berupaya memahami bagaimana politik pertanian Indonesia dapat beradaptasi dengan era inovasi yang disruptif. Hasil analisis yang dilakukan dengan pendekatan kualitatif menunjukkan bahwa: (a) politik pertanian negara selama ini belum mampu menghasilkan pemain baru yang mampu bersaing dengan pemain lama (incumbent), (b) strategi pertanian nasional telah belum mampu menghadirkan perusahaan dan wirausahawan dengan kemampuan disruptive innovation, (c) inovasi kebijakan industri pertanian masih terbatas, sehingga belum bisa menjanjikan margin dan keuntungan yang lebih rendah. Terakhir, pemindahan ibu kota harus diikuti dengan penciptaan lahan sawah yang kreatif dan strategi alokasi anggaran pertanian yang efektif. Ekosistem yang kondusif harus diciptakan untuk mendorong berkembangnya perusahaan baru yang berdaya saing dan petani milenial baru yang siap menghadapi Revolusi Industri 4.0. Sektor swasta juga harus dilibatkan untuk menyeimbangkan peran pemerintah dan perbankan yang kurang optimal.

**Kata Kunci:** Politik Pertanian, Inovasi Disruptif, Revolusi Industri 4.0

### **ABSTRACT**

For Indonesia, relocating the national capital is one option for improving food security. Although, statistically, the ministry of agriculture's flagship program appears to have succeeded in increasing exports. Budget policies are actually shrinking in the field, and agricultural land is eroding. In addition, the state continues to import a number of strategic commodities such as rice and soybeans. The challenges of the innovation disruption era must be met with optimism. This paper seeks to understand how Indonesian agricultural politics can adapt to the era of disruptive innovation. The results of the analysis, conducted using a qualitative approach, show that: (a) the country's agricultural politics have so far been unable to produce new players capable of competing with the old players (incumbents), (b) the national agricultural strategy has not been able to present companies and entrepreneurs with disruptive innovation capabilities, (c) agricultural industry policy innovation is still limited, so it cannot promise lower margins and profits. Finally, the relocation of the capital city must be followed by the creation of creative paddy fields and an effective agricultural budget allocation strategy. A favorable ecosystem must be created to encourage the development of new competitive companies and new millennial farmers who are ready to face the Industrial Revolution 4.0. The private sector must also be involved in order to balance the government's and banks' suboptimal roles.

**Key Words:** Agricultural Politics, Disruptive Innovation, Industrial Revolution 4.0

### **INTRODUCTION**

Indonesia has extraordinary potential as an agrarian country; however, its various development and innovation efforts are concentrated solely on the island of Java (Wilonoyudho et al., 2017). As a result, the Jokowi administration's official initiative to relocate the Indonesian capital from Jakarta to East Kalimantan, specifically in parts of North Penajam Paser Regency and Kutai Kartanegara Regency, East Kalimantan Province (Kusuma, 2019), provides new hope for equitable development. Kalimantan was chosen because of the availability of government land and infrastructure that was considered relatively complete, in addition to strengthening food security and reducing population density on the island of Java (Anastasia, 2019). The relocation of the capital city is also critical to a country's economic stability. Particularly through migration, which can result in the concentration of new

national-scale economic growth centers. Furthermore, it has the potential to bind internal connectivity, namely regional development outside of Java, as well as external connectivity in the form of foreign cooperation, both at the Southeast Asian and Asian levels (Taufiq, 2017).

Statistically, the Ministry of Agriculture's flagship program appears to have succeeded in increasing exports and raising farmers' living standards. Unfortunately, this is not supported by strengthening the agricultural industry's foundation. Governments in the past implemented radical political transformation policies rather than gradually. Agriculture-based industries are forced to transform into broad-spectrum industrialization and hi-tech industries that are heavily reliant on imported raw materials, making them vulnerable to fluctuations in the rupiah exchange rate and wasting foreign exchange reserves (Rijswijk et al., 2019). In strong countries, the transformation is accomplished gradually by expanding the agricultural sector through industries that manufacture agricultural production facilities. Furthermore, they promote the expansion of processing industries that support the agricultural sector (agroindustry). As a result, policy accuracy can aid in strengthening policy formulation in dealing with policy-induced competitiveness by analyzing lessons learned from other countries. (Noertjahyo, 2005; Dabukke & Iqbal, 2014).

The establishment of the ASEAN-China Free Trade Agreement (ACFTA) in 2004 did not alleviate the plight of national agriculture. The ACFTA platform is too focused on the short term, ignoring the vulnerability of Indonesia and several ASEAN countries in terms of investment and market penetration into the People Republic of China. It may result in dominance rather than integration. Similarly, growth in the agricultural sector slowed and the trade surplus shrank as a result of exports growing at a slower rate than imports. Farmers are also not incentivized to increase production because the decline in producer prices (farmers) is greater than the decline in consumer prices.

Weak technological innovation leads to inefficiency in small businesses, as well as inefficient logistics and distribution systems. As a result, domestic products are less competitive with ASEAN neighbors such as Thailand, Malaysia, and Vietnam in agricultural products, and with China in non-agricultural products (manufacturing industry) (Chandra, 2008; Nasrudin et al., 2015).

Several studies show that agricultural entrepreneurs, agricultural agents and actors, agricultural extension workers, and students are important elements in strengthening agriculture in the age of disruptive innovation. The distribution and marketing of food products and agricultural commodities should be based on the most recent technological information. Agricultural entrepreneurs are expected to be able to connect producer farmers directly to consumers in situations where disruptive innovation expands the agenda for networks, customers, places, and unconventional ways (Perwita & Saptana, 2019). Agricultural agents and actors, particularly millennials, must be able to comprehend the process of agricultural production in the industrial era 4.0 transformation. Meanwhile, extension workers must assess the innovation materials that will be provided to farmers to help them adapt to change (Adhi, 2019). Finally, students, as an important component of the millennial generation, can be involved in the process of technological information transformation transmission, both as distributors through community service activities and as participants in accelerating literacy and disrupting innovation in the agricultural world (Puspitasari, 2020). Furthermore, millennial generation agriculture is an effort to strengthen civil society in development politics (Hasan Mustapa, 2019).

Indonesia has the potential to be an agricultural country capable of producing agricultural commodities. What happens is that they continue to import agricultural commodities, including rice. Although there has been an increase in programs to strengthen agricultural infrastructure, the government's presence in agriculture has not been optimal. Apart from being

<sup>24</sup> a challenge, the phenomenon of the industrial revolution 4.0 and the Covid-19 pandemic can also be used as an opportunity through political and economic policies to increase agricultural competitiveness in the face of the era of disruptive innovation.<sup>20</sup>

The primary goal of this research is to determine how agriculture's political economy is dealing with the era of disruptive innovation. Furthermore, the following studies will delve deeper into this phenomenon. The extent to which the agricultural industry's political economy is geared toward exploiting opportunities that the existing industry has overlooked. How extensive are the government's political and economic policy efforts to produce companies and entrepreneurs capable of offering new packaging that is simpler, more affordable, more accessible, and more convenient? How powerful is political policy? The economy encourages the agro-industrial sector to be able to offer lower margins, simpler target markets, and new products and services.<sup>9</sup>

## RESEARCH METHOD

A qualitative approach is used in this study. Qualitative research is exploratory in nature. This implies that a survey of a large number of people was conducted, and the data that are not listed are statistically representative of the population under study. The sampling method is determined by the person or group of people who meet the requirements of the research objectives. Qualitative research delves deeply into the motivations, perceptions, emotions, and values that drive people to engage in various behaviors, which can be useful in developing specific hypotheses as a starting point for research performance (Jemna, 2016).

This research employs a case study method to investigate agricultural politics and the phenomenon of disruptive innovation. In this case, some information, documents, and statistical data on agricultural revitalization



problems, as well as the role of government in agricultural politics, are provided. The research data is a collection of data that includes statistics, news, and current journals of relevant research results. The main concept used as an analytical tool is Christensen's (1997) concept of disruptive innovation.

## RESULT AND DISCUSSION

### New Capital and Agricultural Prospects

President Joko Widodo finally enacted Law No. 3 of 2022 concerning the State Capital (Undang-Undang Ibu Kota Negara) after a lengthy political process. On February 15, 2022, the Law was signed and promulgated. Through this Law, the Archipelago Capital was established as the State Capital, and the Archipelago Capital Authority was established as a ministry-level institution that administers the Regional Government for the Archipelago's Special Capital Region. According to Article 6, the Archipelago's capital covers a land area of approximately 256,142 ha (two hundred and fifty-six thousand one hundred forty-two hectares) and a marine area of approximately 68,189 ha (sixty eight thousand one hundred and eighty nine hectares) (Laoli, 2022). The following table 1 summarizes some of the government's technical considerations for relocating the country's capital city.

**Table 1. Factors Causing the Moving of the Capital City**

Causative Factor	The Significance Of East Kalimantan
<ul style="list-style-type: none"> <li>▪ Reducing Jakarta's burden as a government center, business center, financial center, trade center, and service center. Jakarta also has Indonesia's largest airport and seaport. Traffic congestion, as well as water and air pollution, must be addressed as soon as possible.</li> <li>▪ Examining the population density of Java Island, which has a population of 150 million people, or 54 percent of Indonesia's total population.</li> <li>▪ Improving food security in areas where Java is a source of food security.</li> <li>▪ Maintaining economic stability in light of the fact that Java accounts for 58 percent of Indonesia's economic GDP.</li> <li>▪ Reducing disparities both within and outside of Java.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reducing the likelihood of minor disasters like floods, earthquakes, tsunamis, forest fires, volcanoes, and landslides.</li> <li>▪ Kalimantan, as the new capital city, is strategically located in the heart of Indonesia.</li> <li>▪ Adjacent to developed urban areas, namely Balikpapan and Samarinda.</li> <li>▪ Has a reasonably well-developed infrastructure.</li> <li>▪ Has a government-controlled land stock of 180 thousand hectares.</li> </ul>

Source: Anastasia (2019)

Borneo is one of the world's largest islands. Because of this potential, the government debated the creation of new agricultural land on this island in the 1950s. Syafruddin Prawiranegara (1911-1989) was Minister of Finance from 6 September 1950 to 27 April 1951. <sup>1</sup> The agricultural industry can be revitalized in two ways: land expansion through acquisition of new land and irrigation rehabilitation. Kalimantan Island is a viable option for new land acquisition. It does, however, take a long time of up to thirty years, which can be cut in half. While improving irrigation, agricultural production is more likely to increase (rice). In addition to lower costs, the time required is also less expensive. (Hasan Mustapa & Kania, 2022). Following warnings of a potential food crisis due to the coronavirus outbreak, the government plans to develop large plantations covering an area of more than 164,000 hectares (405,000 hectares) on the island of Borneo by 2020.

**Table 2. Government Agricultural Extensification Projects (1995-2020)**

Year	Project	Progress
1995	President Soeharto issued Presidential Decree No. 82 on Peatland Development for Food Crops Agriculture in Central Kalimantan	<ul style="list-style-type: none"> <li>Following this decision, tens of thousands of hectares of rice fields in Kapuas Regency were opened for rice cultivation, as well as the construction of irrigation canals and houses for 15,100 transmigrant farmers.</li> <li>At the end of the New Order, the project failed. Without proper preparation, approximately 80% of the land cleared for rice cultivation becomes idle land. Except for native plants like the galam tree (<i>Melaleuca leucadendra</i>), peatlands with low macro and micronutrient levels and high acidity are difficult to cultivate without special treatment.</li> <li>Even if rice is planted successfully, its productivity will be far lower than that of rice farming on mineral soils. Peatland rice productivity ranges from 1.5 to 2.9 tons per hectare, which is far below the national average of 5.1 tons per hectare.</li> </ul>
2012	President Susilo Bambang Yudoyono launched a rice field printing project in Ketapang, Bulungan, and Merauke.	Ketapang's soil is acidic and unproductive. In theory, four years from now, the results of a new rice field printing project will appear successful.
2014	President Joko Widodo launched a wider distribution of rice fields,	<ul style="list-style-type: none"> <li>Covers 28 provinces, including South Sumatra, Lampung, Bangka Belitung, Maluku, and South Kalimantan.</li> <li>The Supreme Audit Agency (BPK) discovered numerous flaws, including less fertile land, insufficient irrigation, and a location far from farmer settlements.</li> </ul>
2020-2024	Joko Widodo is again promoting the food estate program which is part of the 2020-2024 National Strategic Project.	The areas designated for this program are in the districts of Pulang Pisau and Kapuas, which were previously part of the One Million Hectare Peatland Project.

Source: Alta (2021)



The project in Central Kalimantan province will increase output from approximately 85,000 hectares of existing agricultural land and add an additional 79,000 hectares, including previously drained peatlands. The government will grow a variety of food crops as well as staples. This area is expected to become a food estate that includes more than just rice and corn.. Fruits and vegetables, as well as farms, will be covered. Similar plantations have previously been developed by the government in Papua province, and more are planned. The government previously developed the land for the food estate in the mid-1990s, but it was later abandoned (Nangoy, 2020). Some of the land development projects carried out by the government include see table 2.

### **Food Sovereignty and Disruptive Innovation**

Food represents national sovereignty. Some developed countries are aware of this by providing agricultural subsidies. History also shows how the United States suppresses countries that do not support its political position through food politics. Japan had a soybean embargo in 1974, and Russia could fall apart if wheat exports were halted. Various US embargoes, including food, have crippled oil-rich countries such as Libya, Iran, and Iraq. Unfortunately, as with agricultural policies, the government has a track record of failing to protect farmers and agriculture (Dewi, 2014).

The presence of ACFTA (29 November 2004) and the World Trade Organization (WTO) is more of a tool of dominance than of integration. Nasrudin et al. (2015) show that ACFTA has a negative impact on the slowing rate of growth in the Indonesian agricultural sector, where a higher level of imports than exports reduces the trade surplus. Farmers have no incentive to increase production because farm prices have fallen faster than consumer prices. This factor contributed to Indonesia's agricultural and non-agricultural commodities' low competitiveness with other ASEAN countries, particularly China.

The loss of food sovereignty has a negative impact on rural development, resulting in an increase in malnutrition and hunger. Obstacles to rural development are determined by national policymakers as well as those who initiate international regulations. The price-sensitive pattern arises as a result of the oligopolistic Indonesian agricultural commodity trading system, in which importers easily control supply and prices. As a result of the strategic position of several commodities such as rice, sugar, and soybeans, the government has a foundation to protect farmers through political intervention and public policies without sacrificing market mechanisms and efficiency (Amaliyah, 2013). On the other hand, granting foreign corporations absolute rights to enter the market and obtain special treatment from the government is unquestionably more damaging to state sovereignty (Alamsyah, 2012). Meanwhile, Christensen (1997) induces the phenomenon of disruptive innovation which consists of three main components in table 3.

**Table 3. Three Main Components of the Disruptive Innovation Phenomenon**

<b>21</b> Process	Impact
The rate of technological progress in many industries <b>12</b> outpacing customer demand for higher-performance technology.	<ul style="list-style-type: none"> <li>As a result, incumbents can maintain market dominance by producing more sophisticated and feature-rich products than customers demand.</li> <li>This creates a chasm between customer needs and the firm's product at the bottom of the market. Newcomers can take advantage of this gap. <b>14</b></li> </ul>
Within an industry, there can be a significant <b>9</b> strategic difference between different types of innovation, whether technology or business models.	<ul style="list-style-type: none"> <li>Most continue to innovate, which improves products and services along performance dimensions that are important to key customers and that the market has historically rewarded.</li> <li>Disruptive innovation is a less common type. Initially inferior to existing products, this innovation provided more appealing packaging for the market's fringe customer groups, particularly those near <b>14</b> bottom of the market, which were simpler, more affordable, more accessible, and more convenient.</li> </ul>
Existing customers and profit models limit established companies' investment in new innovations.	<ul style="list-style-type: none"> <li>Thus, investments that are unappealing to incumbents may be appealing to entrants with few (or no) customers and fewer <b>7</b> competing investment opportunities.</li> <li>As a result, incumbents are rarely motivated to develop disruptive innovations that promise lower margins, target smaller markets, and introduce inferior products and services that their customers are unable to use.</li> </ul>

Source: Christensen (1997)

#### **Agricultural Budget Political Strategy Facing the Industrial Revolution 4.0**

The relocation of the capital to improve food security and reduce

population density should be commended. The island of Java, as a source of food security, is the meeting point for three important elements in the dynamics of food security strengthening, namely the government, entrepreneurs, and farmers. So far, geographic power has helped to maintain a status quo circle in which agricultural market rulers benefit from their relationship with the government through the power of their capital. The discourse of relocating the capital city, the emergence of the Covid-19 pandemic, and the massive flow of disruptive innovations certainly provide a new breath of fresh air for farmers and those who have so far contributed minimally due to a lack of capital support.

Market shifts have surprised established businesses and authorities, according to Rhenald Kasali, who made the concept of disruptive innovation prominent in Indonesia. When online transportation is able to gradually reduce the profitability of conventional transportation, such taxis, it can cause disruption in Indonesia. The incumbent (in this case, conventional transportation) may not have initially believed that Internet transportation, represented by Gojek, Grab, and Uber, was capable of making changes that were actually rather significant but not abrupt. This is what frequently leads to the incumbent becoming complacent and believing he has the upper hand until finally the data and statistics (which are frequently lagging, are known later) are known to show that these startups actually have a significant impact, and unfortunately, the impact is not too obvious. Lack of competition prompts the incumbent to attempt to thwart the disruption, for instance by complaining to the regulator so that a law is created that places lower and higher bounds on online transportation (Kasali, 2017).

The government has been compelled to implement a budget-saving strategy, notably at the Ministry of Agriculture, as a result of the Covid-19 outbreak. The government's budget strategy for all ministries, including Agriculture, will drop in 2021 in contrast to previous years, as depicted in the

accompanying table 4.

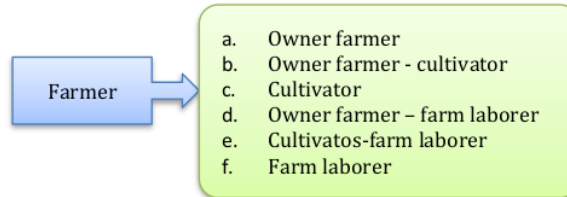
**Table 4. Ministry of Agriculture Budget 2019-2021**

Year	Allocation (IDR.)	Allotment
2019	21,6 Trillion	<ul style="list-style-type: none"> <li>▪ The funding is utilized to develop the 11 Echelon I entities under the Ministry's purview, including the directorate general, secretariat general, inspectorate general, and others.</li> <li>▪ The Directorate of Food Crops (Ditjen TP) received a budget allocation of IDR. 6 trillion, while the Directorate of Agricultural Infrastructure and Facilities (PSP), which is in charge of Agricultural Machinery Equipment (Alsintan), Tertiary Irrigation, and Others, received a budget allocation of IDR. 4.9 trillion. This shows that the main focus is still on the fulfillment of national food needs.</li> </ul>
2020	21 Trillion	<ul style="list-style-type: none"> <li>▪ For the development of agricultural infrastructure and facilities amounting to IDR. 3.5 trillion or 16.64 percent.</li> </ul>
2021	15,51 Trillion	<ul style="list-style-type: none"> <li>▪ According to the letter of the Minister of Finance No. S-30/MK.02/2021 dated January 12, 2021, the Ministry of Agriculture is required to save IDR. 6.33 trillion from a ceiling of IDR. 21.84 trillion, bringing the total to IDR. 15.51 trillion.</li> <li>▪ The Ministry of Agriculture will run the following programs this year:                             <ol style="list-style-type: none"> <li>a. IDR. 8 trillion budgeted program to increase access to and consumption of high-quality food.</li> <li>b. The total budget for the value added and industrial competitiveness program is IDR. 1.32 trillion.</li> <li>c. IDR. 788.11 billion was spent on vocational education and training programs.</li> <li>d. science and technology research and innovation programs totaling IDR. 309.56 billion.</li> <li>e. IDR. 5.09 Trillion Management Support Program.</li> </ol> </li> </ul>

Source: Kementan (2019); Nidya (2020); Yudho (2021)

Even in the midst of a pandemic, this figure demonstrates enthusiasm for competitiveness value added programs, vocational education and training, and science and technology research and innovation programs. Many conditions are changing as a result of this era's technological sophistication. Almost every industry, from business to education to politics, has evolved. <sup>8</sup> The agricultural sector, which once contributed significantly to the national GDP, <sup>8</sup> has now declined significantly. This industry is no longer one of Indonesia's most important economic sources. To meet the needs of an expanding population, the agricultural world coined <sup>5</sup> the term "Agricultural Revolution 4.0," in which agriculture is expected to incorporate digital technology into its development process. In terms of the phenomenon of disruptive innovation, the agricultural world is still dominated by the government or private entrepreneurs (incumbent). Farmers are still divided into six socioeconomic

layers, as shown in figure 1:



**Figure 1. The Layers Fragmentation of Agricultural Society**

Source: Sihalohe et a (2010)

According to Sihalohe et al. (2010), from the standpoint of agrarian politics, farmer poverty is generally caused by limited land tenure and a lack of productive land tenure capabilities. Agrarian reform is one component of the solution that can be implemented to provide farmers with access to agrarian/land resources (especially the poor). Meanwhile, agricultural revitalization can serve as a mechanism for farmers to gain access to capital, technology, and other agricultural resources (Sihalohe et al., 2010:). In this case, Indonesia's agricultural regulatory system is still unable to attract new players into the liberal agricultural political system.

The concept of smart agriculture, also known as smart farming or precision agriculture, is currently being developed as an agricultural development concept. The use of industrial computer technology in agriculture is referred to as this concept. The primary goal of the technology's application is to perform optimization in the form of increased yields (quality and quantity) and efficient use of existing resources. The agricultural industrial revolution 4.0 proved to be more dominant in Europe. This is due to a demographic disaster, in which the number of productive age population is less than the number of non-productive age population, requiring population power to be replaced by technology. Meanwhile, in Indonesia itself, the industrial revolution 4.0, especially in the agricultural sector, has not been very successful (Rahayu, 2019). There is a decrease in agricultural land based on data from the Central Statistics Agency and land area figures obtained by



the Area Sample Framework (KSA) methodology using satellite imagery data from the National Institute of Aeronautics and Space (LAPAN) and the Geospatial Information Agency (BIG) see figure 2.



**Figure 2. Depreciation of Agricultural Land**

Source : BPS (2018)

<sup>3</sup>  
 In terms of food self-sufficiency, Indonesia is still struggling due to shrinking agricultural land. Comparison with other countries is also uncommon, as shown in the table 5.

**Table 5. Comparison of Agricultural Land Areas in Several Countries**

Countries	Agricultural Land	% of Total Land	Population to Land Ratio (People : Hectare)
Indonesia	570.000 km <sup>2</sup>	31,5 %	1 : 0,22
Thailand	221.000 km <sup>2</sup>	43,3 %	1 : 0,32
Australia	4.000.000 km <sup>2</sup>	52,9 %	1 : 16,67
Cina	5.000.000 km <sup>2</sup>	54,8 %	1 : 0,35

Source: CIPS (2018)

A good budget strategy should be future-oriented, effective, and free of deviations (H. Mustapa et al., 2020). The agricultural industry development strategy appears to need to be changed based on the budget strategy and the shrinkage of agricultural land area. Indeed, the agricultural industry is moving at a glacial pace. Agriculture 4.0, in contrast to Industry 4.0, which is advancing rapidly both theoretically and practically, is still limited and delayed in theory. and is still restricted to a small number of start-ups. Policymakers and decision-makers are therefore advised to invest in technological advancements and provide various ways for all sectors of the economy to promote agricultural innovation 4.0 (Zambon et.al, 2019).

### **Government Efforts in Presenting Competitive Agricultural Companies and Entrepreneurs**

According to the findings of a study conducted by the National

Development Planning Agency (Bappenas) on the effectiveness of spending by ministries and government agencies on economic growth, the program of Minister of Agriculture (Mentan) Amran Sulaiman and Minister of Maritime Affairs and Fisheries Susi Pudjiastuti for 2019 boosted regional growth. This explains why the Indonesian agriculture and fishery sectors contribute significantly to the national economy's growth and development. The importance is as follows table 6 and table 7:

**Table 6. Contribution of Agriculture and Fisheries**

Contribution	Agriculture and Fisheries Sector
Foreign exchange	Exports of agricultural and fishery products that replace imported products will contribute significantly to the trade balance surplus.
Product	Agricultural policy through the Special Effort Program to Accelerate Food Self-Sufficiency, namely the provision of food for the community and raw materials for a variety of industries. Food price stability.
Reduce poverty	Government agricultural development policies help to alleviate poverty, particularly in rural areas. A mechanization program that reaches remote areas of the country, but from the Poverty Surgery program for Prosperous People for Work (Work), corn cultivation, development of export-based border areas, Save Swamps Save Farmers (Serasi), Breeders Mandatory Pregnant (Siwab), Rain Harvesting System, Healthy Crops Cultivation, Integrated Rice Agricultural Service Center, Belgian Blue, and the use of Palm Oil-based B100 Biodiesel.

Source: BPS (2019)

**Table 7. Contribution Value Comparison**

Values	Year	Amount
Export of agricultural commodities. There is an increase of 9 million tons and the average increase in exports per year is 2.4 million tons	2013	33 million tons
	2018	42,5 million tons
Decrease in food inflation. Food availability is successfully guaranteed by the government	2013	11,71 %
	2017	1,26 %
Global Food Security Index 2018, Indonesia's food security ranking improved from 113 countries.	2014	72
	2018	65
Farmer's Exchange Rate (NTP, ed) which measures the purchasing power of farmers is getting stronger.	2014	102,03
	2018	103,17

Source: BPS (2019)

### Government Excellence Programs and Budget Absorption

The Ministry of Agriculture's budget is shrinking year by year as can be seen from the table 8 and Figure 3.

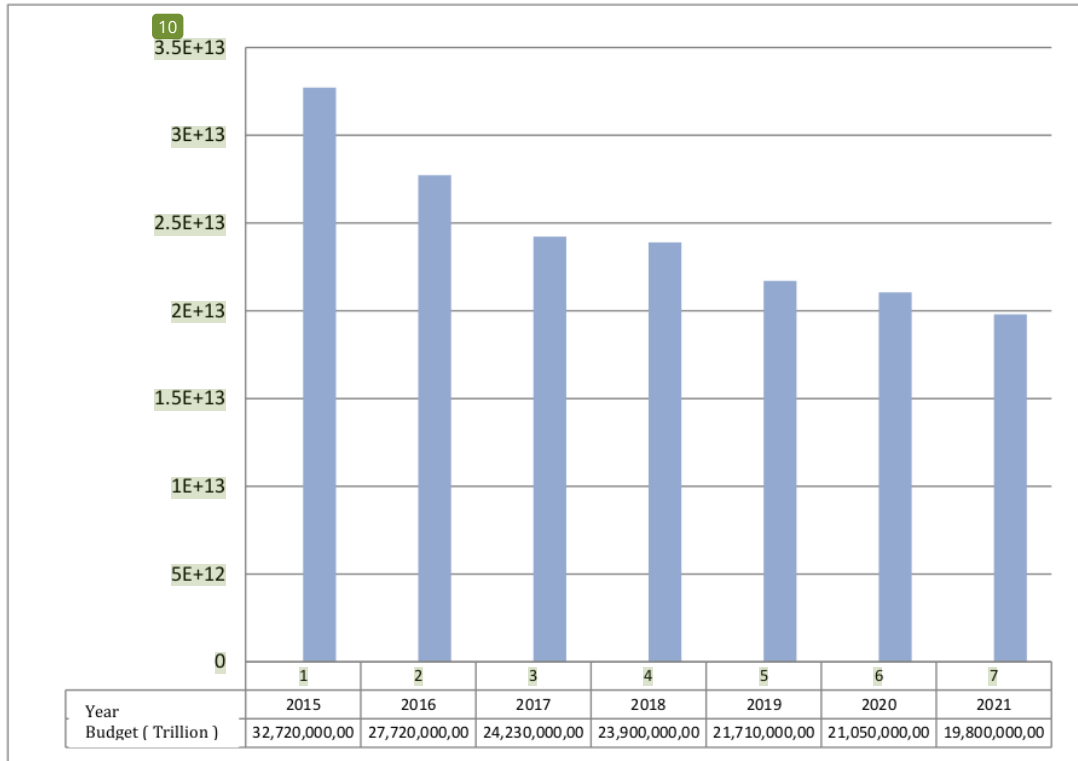


Figure 3. Agriculture Budget Depreciation

Source : Kementan (2019) and Yudho (2021)

Despite the budget decrease shown in the table, the Ministry of Agriculture's macro performance indicators for 2014-2018 continue to rise. The Ministry of Agriculture has launched several flagship programs to support the improvement of macro performance indicators, including the provision of superior seeds, agricultural machinery (alsintan), fertilizers, and irrigation availability. Bappenas, through its research, values the expenditure of goods in the Ministry of Agriculture program, which is thought to stimulate economic growth in the region. Rural poverty fell dramatically to 13.2 percent, and inflation fell to its lowest level in history. Aside from the performance of macro indicators, the production performance of strategic agricultural commodities

is also evidence of success.

As long-term solutions, excellent and efficient programs are encouraged. For example, the *SERASI* strategic program (*Selamatkan Rawa Sejahterakan Petani* [Save the Prosperous Rawa for Farmers]), followed by the *BEKERJA* Program (*Bedah Kemiskinan Rakyat Sejahtera* [Western Poverty Surgery]), and the application of seed innovation and mechanization to modern agriculture. Furthermore, the deregulation of complex rules is made simple. In addition, the government continues to implement ground-breaking policies and programs to increase export value and open access to foreign markets. Some of them negotiated health requirements for milk production in Fiji and compiled technical information on fresh pineapple and banana export commodities to China, Taiwan, Ukraine, and Papua New Guinea (Maarif, 2019).

Because of the government's and banks' limited capacity, the involvement of the domestic and foreign private sectors in agriculture is unavoidable. Farmers can still capitalize on the food sector's business potential; however, the government's and banks' attention is not optimal. Farmers and the private sector have a preference for corn over rice and soybeans. This is because the margins obtained by farmers are more profitable, they receive adequate counseling, and the market guarantees the results of their cultivation. Several factors influence farmers' perceptions of adopting their own technology, including direct relative economic advantages, technology suitability to socio-culture, the complexity of technology application, and information disclosure (Indraningsih, 2011). Massive agricultural investment is urgently needed to help repair damaged food systems. Private sector investment has the potential to contribute significantly to inclusive economic growth, environmental sustainability, and poverty reduction. To do so, however, it must be adequately regulated and follow several key principles, such as focusing on local food markets, collaborating with producer organizations, and respecting the rights of small-scale

producers, workers, and communities (Sahan & Mikhail, 2012).

Furthermore, as shown in the table below, the realization of the Ministry of Agriculture's budget until June 6, 2021 is relatively low, in the range of 20.93 percent:

From 2020 to 2021, it appears that the government's priority will be to deal with Covid-19. However, the real dimension of agricultural budget politics in several general directorates is still fairly dynamic.

**Table 8. Ministry of Agriculture Budget Absorption as of 06 June 2021**

Directorate	Budget Absorption (IDR.)	Budget Ceiling (IDR.)
Directorate General of Plantations	219,79 billion	1,33 trillion
Directorate General of Livestock and Animal Health (PKH)	358,65 billion	1,99 trillion
Agricultural Human Resources Extension and Development Agency (BPSDM)	403,09 billion	1,36 trillion
The Directorate General of Food Crops is	683,65 billion	5,17 trillion
Director General of Horticulture	114,61 billion	813,41 billion
Directorate General of Agricultural Infrastructure and Facilities (PSP)	671,55 billion	4,43 trillion
Agricultural Research and Development Agency (Balitbang)	499,34 billion	1,47 trillion
Food Security Agency	250,64 billion	563,36 billion

Source: Sandi (2021)

### Indonesian Agricultural Politics Facing Disruptive Innovation Era

The age of disruption necessitates fundamental changes in many areas of life. When the world enters the Industrial Revolution 4.0, which is distinguished by the use of automated machines that are linked to the internet network. The challenge for the world of agriculture is determining how the agricultural management process can be carried out efficiently and effectively in order to produce a competitive world of agriculture with optimal production. The five main technological components that support the implementation of Industry 4.0 must be carefully mastered: Internet of Things (IoT), Artificial Intelligence (AI), Human-Machine Interface (HMI), Robotic and sensor technology, and 3D Printing Technology. Meanwhile, conventional farmers face traditional constraints such as limited land ownership, soil damage caused by pesticides and chemical fertilizers, poor quality management, post-harvest marketing issues, and difficult technological



adaptation (Nurpadilah, 2018).

Some of the obstacles where agricultural economic political policies are still unable to seek the emergence of competitive companies and entrepreneurs based on disruptive innovation can be seen in indicators that the industrial revolution 4.0 implementation in Indonesia has not been successful. Among the reasons are:

1. Low-cost human resources. The majority of the farmers are over 40 years old, and 70% have only an elementary school education or less. The opportunity for innovation is limited. This age factor, which is already less productive, impedes the process of thought reactalization (Mustapa, 2017). Something that will appeal to the millennial generation.
2. Agricultural Land Condition in Indonesia. The uneven population distribution results in a large number of idle lands. Due to the high cost of land, most farmers are only cultivators rather than owners. Conversion of agricultural land to non-agricultural land, which occurs at a rate of 150-200 thousand per year, also causes farmers to lack farmland.
3. Slow technological advancement. Because of limited resources and knowledge, the technological transition from traditional to modern agricultural management is slow. The public has not been adequately educated to accept openly technology transfer. This is where the government can help by providing education in the form of mass counseling or demonstrations of modern agricultural tools (Rahayu, 2019).

At this point, future agricultural policies in Indonesia must, of course, be oriented toward the future. At the very least, there are a few things to consider. For starters, food production is no longer based on rice estates. The government should reconsider the Central Kalimantan food estate project,

which is envisioned as a national food barn. The failure of the Peatland Development project during the New Order period, which was launched in 1995 by Presidential Decree 82/95 by President Soeharto and was closed by Presidential Decree 33/98 by President Habibie, are two factors to consider. Another factor is that large-scale development projects involving APBN capital are unhealthy in the field, both bureaucratically and ecologically, because they contribute to the destruction of peatland ecosystems (Ridhoi, 2020).

Second, import policies must be reconsidered because, in addition to harming farmers, they can cause market distortions. More efforts should be made to achieve self-sufficiency in meeting domestic and export needs, so the political orientation of rice estate-based self-sufficiency in food should be observer (Wardhiani, 2019). This is required for long-term agricultural development (H. Mustapa et al., 2021).

Third, the impact of Covid-19 on the minimum budget absorption, particularly in 2021, should be used as an opportunity to be more selective in choosing focus. In this case, investment should be directed toward increasing the number of farmers. Farmers as agricultural actors began to lose their clout. The average farmer has reached retirement age. The projected presence of millennial farmers must be taken more seriously in order to create a bright ecosystem in the future.

Fourth, the government should pay more attention to multidisciplinary development based on networking and digital marketing, particularly in terms of providing a paradigm foundation for the millennial generation, which is expected to fill the void of agricultural actors in the future. Existing agricultural vocational schools, as well as students majoring in agriculture and relevant ones, must focus on program development through sustainable stimulants and an emphasis on applied technology.

These various efforts must be accompanied by the integration of all existing systems and instruments, both at the ministry of agriculture and in related sectors such as institutions affiliated with the ministry of finance, in order to achieve the best

scheme that can strengthen agricultural political policies that look to the future (future outlook) (Hasan Mustapa & Saripudin, 2022). A strong and independent country, one supported by a protected agricultural industry. Various global threats, such as the Russian war and the recently passed Covid 19 pandemic, should provide guidelines for the development of agricultural protection. Without it, food sovereignty is vulnerable and threatens national stability (Hasan Mustapa & Kania, 2022).

## CONCLUSION

The government's political will to mobilize resources, both fiscally and in terms of creating a competitive agricultural industry ecosystem, must be taken more seriously. Agricultural policy should focus on developing companies and entrepreneurs capable of disruptive innovation. In this case, the expansion of companies and agricultural entrepreneurs who are capable, strong, and able to see opportunities that the old players do not see. Furthermore, the government's political and economic policies must dare to encourage agricultural investment in the spirit of disruptive innovation. When the government and banks are unable to address the issue, the private sector can step in. Unfortunately, in the strategic food sector, people are generally hesitant to take risks. In comparison to the non-food sector, such as palm oil, the advantages are enticing.

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