

Economic Recovery Strategy to Leverage Agricultural MSMEs Post Covid-19 Pandemic in Central Java, Indonesia

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ABSTRACT

This study aims to identify the impact of the COVID-19 pandemic on agricultural MSMEs in Central Java, Indonesia, and analyze economic recovery policy strategies. This study is a descriptive qualitative research, and the results show that in agricultural MSMEs, the COVID-19 pandemic in Central Java, Indonesia, has an impact on the decline in sales, production, profits, selling prices of crops, as well as an increase in agricultural costs, labor costs, transportation costs and other costs. Medium-term economic recovery policy strategies include: Creative economy development to increase added value and competitiveness; Strengthening the agricultural production and processing system for import substitution and export promotion of MSME products; Initiation of agriculture as a lifestyle of urban society and the involvement of millennials & generation Z in agriculture. Meanwhile, long-term economic recovery policy strategies include: Food safety management, traceability and handling of food waste; The development of agriculture as a lifestyle of urban communities and the involvement of women farmers and millennials/generation Z in agriculture; and agglomeration of urban agriculture as a local tourism destination. This policy is projected to change the face of agricultural MSMEs in Central Java from what was previously fragile and traditional to an innovative, highly competitive, inclusive, and sustainable sector.

Keywords: Economic Recovery, Agricultural MSMEs, Strategy, Post-Covid-19 pandemic.

1. INTRODUCTION

The agricultural sector is the type of business field that absorbs the most labor with an average contribution of 32.21 percent. Meanwhile, the contribution of other sectors is less than 19 percent. The agricultural sector has a strategic role for the national economy (Sirait et al., 2021). In 2020, the agriculture and food sector experienced significant supply chain disruptions due to the COVID-19 crisis and associated lockdown measures (OECD, 2021). As the results of research by (Workie et al., 2020) that the agricultural sector forms the backbone of the economy and provides livelihood to a large section in developing countries. Therefore, the disruption in food security and the agricultural sector will have far-reaching impacts on these countries.

In Central Java, the agricultural sector is still the largest contributor to employment. In August 2021, the agricultural sector absorbed 4.23 million workers or 23.71% of the total working population. The performance growth of the agricultural sector remains high despite a slowdown in 2021. The slowdown in the agricultural sector is due to a decline in production due to climate disturbances and unstable rainfall intensity (Kantor Perwakilan Bank Indonesia Provinsi Jawa Timur, 2021).

The purpose of this study was to identify the impact of the COVID-19 pandemic on the agricultural sector, identify recovery needs and analyze economic recovery policy strategies in Central Java Province, Indonesia.

The theoretical background of this research is the Adaptive Capacity Approach. This theory describes the ability of a system (in this case, the MSME agricultural sector) to adapt to environmental changes, such as the COVID-19 pandemic crisis. This concept emphasizes adaptation, innovation, and modification efforts to achieve resilience in the midst of a precarious and vulnerable situation, towards a new normal.

Literature review shows that economic growth in Indonesia during the Covid-19 pandemic has decreased, starting from the second quarter of 2020 to the first quarter of 2021. Meanwhile, the impact of the Covid-19 pandemic in the agricultural commodity trading sector, namely the existence of a high price disparity reaching above 50% for some commodities (Sadiyah, 2021).

The pandemic forced the agricultural sector to switch from conventional methods to digitalization as much as possible to survive. The pandemic provides opportunities for Indonesia's agricultural sector to optimize innovative and adaptive capabilities (Paksi, AK et.al 2023)

The most effective government intervention to increase the resilience of MSMEs is a combination of new loans and interest subsidies/credit restructuring. As a result of the regional quarantine policy during the pandemic, MSMEs experienced a decrease in sales, which resulted in a decrease in liquidity. MSMEs that have been digitally transformed for more than 1 year have higher resilience than MSMEs that have never transformed digitally or are late to adopt (Supari et.al, 2022).

The Covid-19 pandemic has had a negative impact on labor productivity in the agricultural sector. The pandemic increases health risks, disrupts the production process and marketing of agricultural products, increases the burden of health spending and reduces access to education and training which can reduce labor productivity in the agricultural sector (Abidin, 2021).

The impact of the Covid 19 pandemic has affected the dynamics of the national food situation. The implementation of Large-Scale Social Restrictions is an obstacle for supply chain activities for basic and strategic food commodities so that retail prices generally increase. Disruption of the logistics system and distribution of food from producers to consumers, due to the scarcity of food supplies, has led to an increase in the prices of several commodities, including increasing marketing margins for several basic necessities (Anugrah et al., 2020).

Previous studies have examined various aspects related to MSMEs, especially during the pandemic. These studies include the resilience of MSMEs, the impact of digitalization, literacy, and innovation on the financial performance of MSMEs. In addition, there is also research that evaluates the effectiveness of financial stimulus policies, the impact of the National Economic Recovery Program (PEN) and digitalization, as well as analyzing the influence of social assistance, tax incentives, working capital expansion, and credit restructuring on the development of MSMEs. Several studies also identified factors to improve the performance of sustainable MSMEs such as green IT adoption and behavior, as well as analyzed the role of financial technology in the development of MSMEs. Finally, there is research that focuses on the impact of the COVID-19 pandemic on Indonesia's agricultural sector and its adaptation. Meanwhile, this study aims to identify the impact of the COVID-19 pandemic on agricultural MSMEs in Central Java, Indonesia, and analyze economic recovery policy strategies in the post Covid-19 pandemic.

2. METHODS

This research is a qualitative descriptive study. The study was conducted from September to December 2023, in Central Java Province. The sampling location was chosen purposively by considering the data representation in 35 districts/cities in Central Java.

The data used include primary and secondary data. Primary data collection was carried out through several stages, namely: pre-survey (preliminary survey), Focus Group Discussion (FGD), structured interviews and in-depth interviews. The pre-survey was carried out to obtain initial information on the impact of COVID 19 and policies in each related sector (MSMEs, tourism and agriculture). A pre-survey was also carried out to identify relevant issues. The results of the preliminary survey are the preparation of research designs and research instruments.

The next stage after the pre-survey is Focus Group Discussion (FGD). The purpose of the FGD is to further identify the relevance of programs, strategies and activities that have been taken by the relevant Dinas in responding to the impact of COVID 19 and the strategies/economic recovery measures that have been and will be implemented.

In the third stage, data collection was carried out using a survey method. The survey method is a research that utilizes primary information and data obtained directly from the subjects studied online by using structured questions in the questionnaire. In-depth interviews were also conducted to further examine the results of the previous FGDs.

The secondary data used are statistical data, activity planning documents and activity implementation reports from the relevant technical offices.

Identification of the impact of the COVID-19 pandemic on the agricultural sector and identification of recovery needs were analyzed using a qualitative descriptive method, while the economic recovery policy strategy was analyzed using the SWOT method.

3. RESULTS AND DISCUSSIONS

3.1. The Impact of the Covid-19 Pandemic on the Agricultural Sector in Central Java

In the agricultural sector, the Covid-19 pandemic in Central Java has an impact on the sale of production results, farming profits, selling prices of harvested crops, farming costs, labor costs, transportation costs and other costs.

The Covid-19 pandemic in Central Java had an impact on sales of crops/production in agricultural businesses with a decline of more than 75% in 14.29% of respondents, resulting in a decline in sales of between 50%-75% of 28.57% of respondents. Meanwhile, 34.69% of respondents stated that their sales decreased by less than 50%. Most respondents from agricultural businesses (77.55%) experienced a decline in sales of harvest/production at various levels during the Covid-19 pandemic in Central Java. In line with the results of the Ministry of Agriculture's 2020 study, the prices of agricultural products have increased globally due to slowing global economic growth which has led to a decline in agricultural production. In Indonesia, almost all agricultural production has decreased. In addition to primary agricultural production, the production of the food industry also experienced a decline.

The Covid-19 pandemic has an impact on farming profits with a decrease in profits of more than 75% in 16.98% of respondents, an impact on a decrease of 50-75% in profits, in 33.96% of respondents. Meanwhile, 32.08% of respondents stated that farming profits decreased by less than 50%. The majority of respondents from agricultural businesses (83.02%) experienced a decline in farming profits at various levels during the Covid-19 pandemic in Central Java.

. The impact of the Covid-19 pandemic on the selling price of crops with a decrease of more than 75% was experienced by 21.57% of respondents, a decline in the selling price of production of 50-75% was experienced by 25.49% of respondents. Meanwhile, 31.37% of respondents stated that the selling price of the harvest decreased by less than 50%. Most respondents from agricultural businesses (78.43%) experienced the impact of a decline in the selling price of farm products at various levels during the Covid-19 pandemic in Central Java.

The impact of the Covid-19 pandemic on sales of production, farming profits and selling prices of crops as shown in table 1.

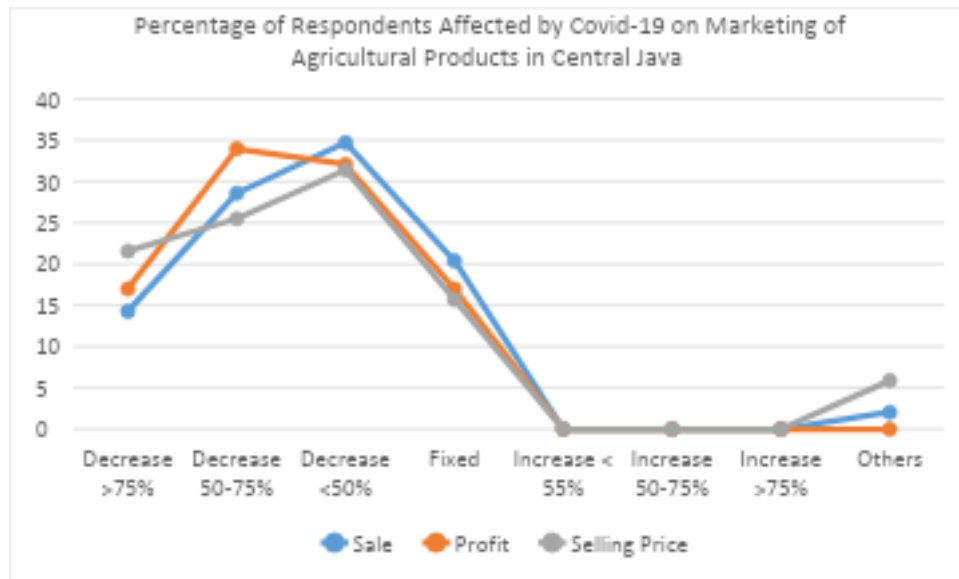


Figure 1. Percentage of Respondents Affected by Covid-19 on Marketing of Agricultural Products in Central Java

The Covid-19 pandemic eroded profits significantly as a result of declining sales, while production costs remained or even increased. The costs that increased during the pandemic were other costs (42.86%), farming costs (37.25%), labor costs (36.49%) and transportation costs (30%).

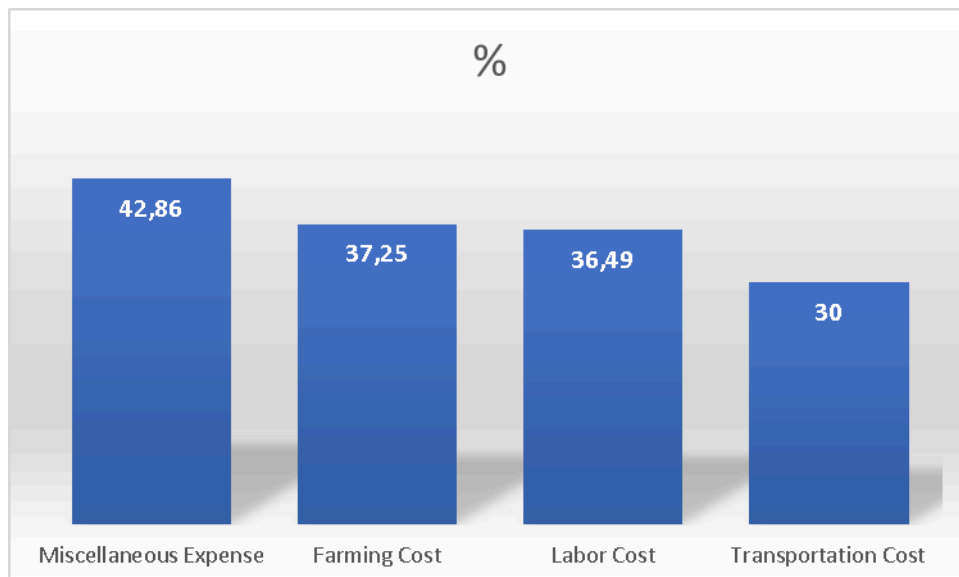


Figure 2. Production Costs that have increased during the Covid-19 Pandemic in Central Java

A total of 35.29% of respondents from agricultural business actors in this study experienced the impact of increasing farming costs at various levels during the Covid-19 pandemic in Central Java, while 37.25% of respondents stated that farming costs tended to be relatively fixed during the Covid-19 pandemic.

The Covid-19 pandemic in Central Java has an impact on labor costs in agricultural businesses. Most respondents from agricultural businesses (55.10%) stated that labor costs tended to remain constant during the Covid-19 pandemic. A total of 36.49% of respondents from agricultural businesses stated that they experienced the impact of rising labor costs at various levels during the Covid-19 pandemic in Central Java.

The Covid-19 pandemic in Central Java has an impact on transportation costs for agricultural businesses. Most respondents from agricultural businesses (58%) stated that transportation costs tended to remain constant during the Covid-19 pandemic. As many as 30% of respondents from agricultural businesses experienced the impact of rising transportation costs at various levels during the Covid-19 pandemic in Central Java.

As many as 42.86% of respondents from agricultural businesses experienced the impact of increasing other costs at various levels during the Covid-19 pandemic in Central Java, while 40.82% of respondents stated that other costs tended to remain constant.

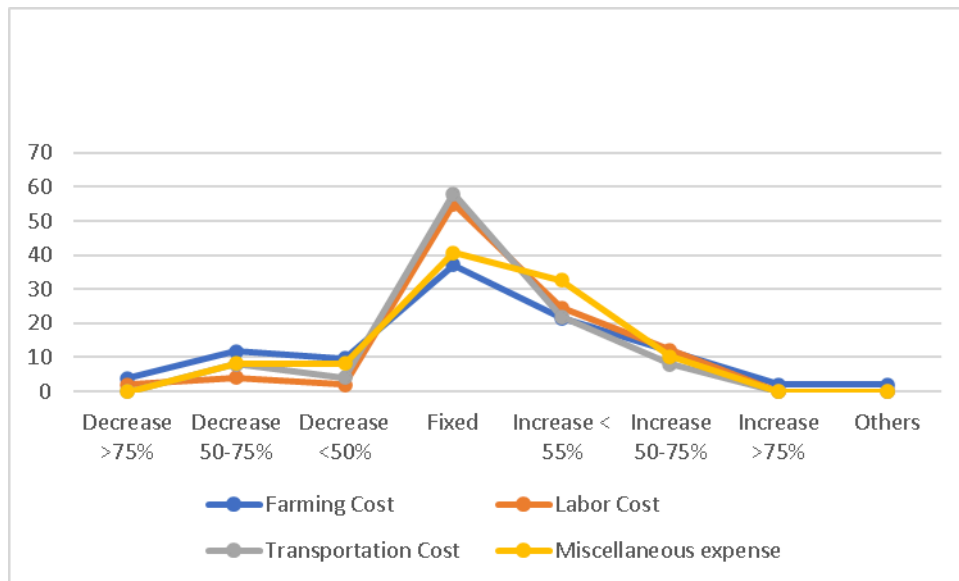


Figure 3. Percentage of Respondents Affected by Covid-19 on Agricultural Production Costs in Central Java

In accordance with the Conception of Adaptive Capacity in a theoretical framework, MSMEs in the agricultural sector must adapt to environmental changes in the COVID-19 pandemic crisis. MSMEs in the agricultural sector must make adaptation, innovation, and modification efforts to achieve resilience in the midst of a critical and vulnerable situation, towards the new normal.

3.2. The Need for Economic Recovery in the Agricultural Sector

The majority of respondents who are agricultural business actors in Central Java (62%) have never received assistance programs from the Government during the COVID-19 pandemic, while the remaining 38% stated that they had received government assistance during the Covid-19 pandemic.

Of all respondents from agricultural business actors who received government assistance during the Covid-19 pandemic, 31.6% received assistance from the central government, and 31.6% received assistance from district/city governments, amounting to 21.1% received assistance from the village government and 15.8% received assistance from the Central Java provincial government.

Most of the respondents who did farming (52.6%) received assistance in the form of direct cash assistance. As many as 26.3% of respondents received assistance in the form of goods/raw materials, while the rest received government assistance in the form of business capital, interest relief on loans, basic necessities, Rp 300,000 for 3 (three) months, BPJS employment and rice seeds.

Of all respondents who received government program assistance, most (63.2%) stated that the assistance received was not in accordance with their needs. A total of 31.6% stated that the assistance received was in accordance with the needs but not optimal, while the rest stated that the assistance provided was in accordance with the needs.

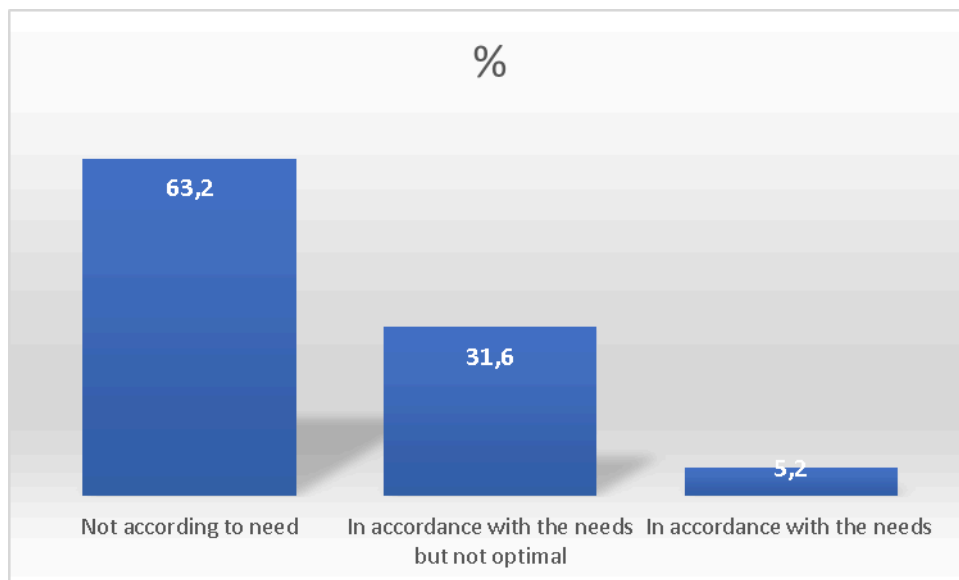


Figure 4. Government Assistance Compatibility

Suggestions for improvement for the types and processes of government assistance for farming actors affected by the Covid-19 pandemic in Central Java are in terms of the procedure for submitting assistance (52.6%), the process of providing assistance (42.1%), the quality of the raw materials provided (21, 1%). Suggestions for improvement for the type of government assistance for MSME business actors during the Covid-19 pandemic in Central Java are in the form of business capital assistance.

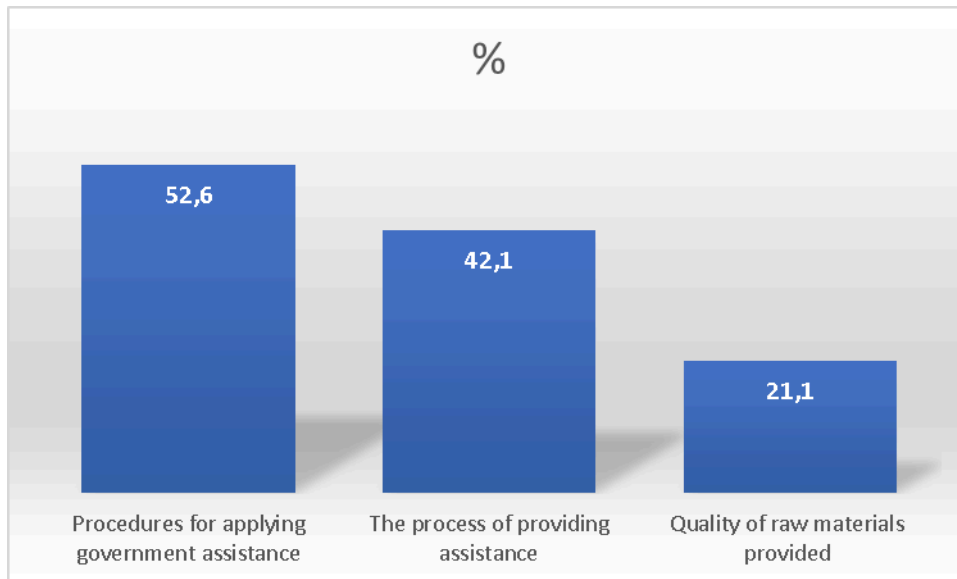


Figure 5. Suggestions for Improvement for the Types and Processes of Government Assistance for Farming Actors Affected by The Covid-19 Pandemic in Central Java

Based on discussions with experts and stakeholders in the Central Java agricultural sector, the identified needs for economic recovery during and after the Covid-19 pandemic for the agricultural sector in Central Java were (a) recovery of production and productivity; (b) Institutional strengthening of farmers, fishermen and fish cultivators (Fishermen-Owned Enterprises); (c) Strengthening production technology and market access (online market development); (d) Creative economy development; (e) Preparation of processes & procedures for managing food safety, traceability & food waste. In line with the research results of (Arifin A, 2019) stated that in order to build a strong and intact food security institution, it is important to deeply understand the meaningful values of social capital embraced by a society and to organize it or pair it with modern institutional management and patterns.

3.3. Agricultural Sector Economic Recovery Policy Strategy

The agricultural sector is one of the sectors affected by the Covid-19 pandemic in Central Java.

3.3.1. Identification of strengths, weaknesses, opportunities and threats in the agricultural sector

Identification of Strengths, Weaknesses, Opportunities and threats in the Agricultural Sector in Central Java as shown in table 1.

Table 1. Identification of Strengths, Weaknesses, Opportunities and Challenges in the Agricultural Sector in Central Java

Strength	Weaknesses	Opportunities	Threats
Source of basic needs	Very dependent on nature	The main source of raw materials for the MSME sector	The number of competitors for similar agricultural products from other regions
The backbone of the economy (GDP and employment)	Weak farmer institutions	Regional, national and global markets	Transportation restrictions/ arrangements to deal with COVID 19
Potential of natural resources and human resources	Traditional cultivation method	Lifestyle changes	Limited agricultural land/land conversion

Source: Processed primary data, 2024.

The strength of agricultural sector in central Java were 1) Source of basic needs; 2) The backbone of the economy (GDP and employment); 3) Potential of natural resources and human resources. The weaknesses of agricultural sector in central Java were 1) Very dependent on nature; 2) Weak farmer institutions; 3) Traditional cultivation method. The opportunities of agricultural sector in central Java were 1) The main source of raw materials for the MSME sector; 2) Regional, national and global markets; 3) Lifestyle changes. While the threats of agricultural sector in central Java were 1) The number of competitors for similar agricultural products from other regions; 2) Transportation restrictions/ arrangements to deal with COVID-19; 3) Limited agricultural land/land conversion.

3.3.2. Internal factor urgency matrix in the agricultural sector of Central Java, consisting of strengths and weaknesses

The urgency matrix of internal factors in the agricultural sector of Central Java, consists of strengths and weaknesses as shown in table 2.

Table 2. Internal Factors Urgency Matrix in Agriculture Sector in Central Java

No	Internal Factor	More Urgent Factors						Total	Weight (%)
		a	b	c	d	e	f		
Strength									
a	Source of basic needs	x	b	a	a	a	a	4	26,667
b	The backbone of the economy (GDP and employment)	b	x	b	b	b	b	5	33,334
c	Potential of natural resources and human resources	a	b	x	c	c	c	3	20,00
Weaknesses									
d	Very dependent on nature	a	b	c	x	e	f	0	0
e	Weak farmer institutions	a	b	c	e	x	e	2	13,334
f	Traditional cultivation method	a	b	c	f	e	x	1	6,667
		4	5	3	0	2	1	15	100,00

Source: Processed primary data, 2024.

3.3.3. The urgency matrix of external factors in the agricultural sector in Central Java, including opportunities and threats

The urgency matrix of external factors in the agricultural sector in Central Java, including opportunities and threats, as shown in table 3.

Table 3. External Factors Urgency Matrix in Agriculture Sector in Central Java

No	External Factor	More Urgent Factors						Total	Weight (%)
		a	b	c	d	e	f		
Opportunities									
a	The main source of raw materials for the MSME sector	x	a	a	a	a	a	5	33,334
b	Regional, national and global markets	a	x	b	b	e	f	2	13,334
c	Lifestyle changes	a	b	x	d	e	c	1	6,667
Threats									
d	The number of competitors for similar agricultural products from other regions	a	b	d	x	e	f	1	6,667
e	Transportation restrictions/	a	e	e	e	x	e	4	26,667

arrangements to deal with COVID 19									
f	Limited agricultural land/land conversion	a	f	c	f	e	x	2	13,334
		5	2	1	1	4	2	15	100,00

Source: Processed primary data, 2024.

3.3.4. Evaluation of Internal and External Factors in the Agricultural Sector

The cumulative index value for the element of strength is 7.115 while for the element of weakness it is 1.303. The total score of the internal factors is 5.812, meaning that it has a higher strength value than its weaknesses. External factor analysis shows that the cumulative index value for the opportunity element is 4.065, while for the threat element it is 2.242. The total score of external factors is 1.727, meaning that it has an opportunity factor that has a higher value than the threat.

The results of the identification of these factors can be illustrated in the SWOT diagram shown in Figure 6. From the results of the analysis it is known that in the economic recovery the Agriculture sector is in quadrant I (Aggressive) or is in a favorable position, meaning that the agricultural sector has the power to take advantage of these factors. existing opportunities.

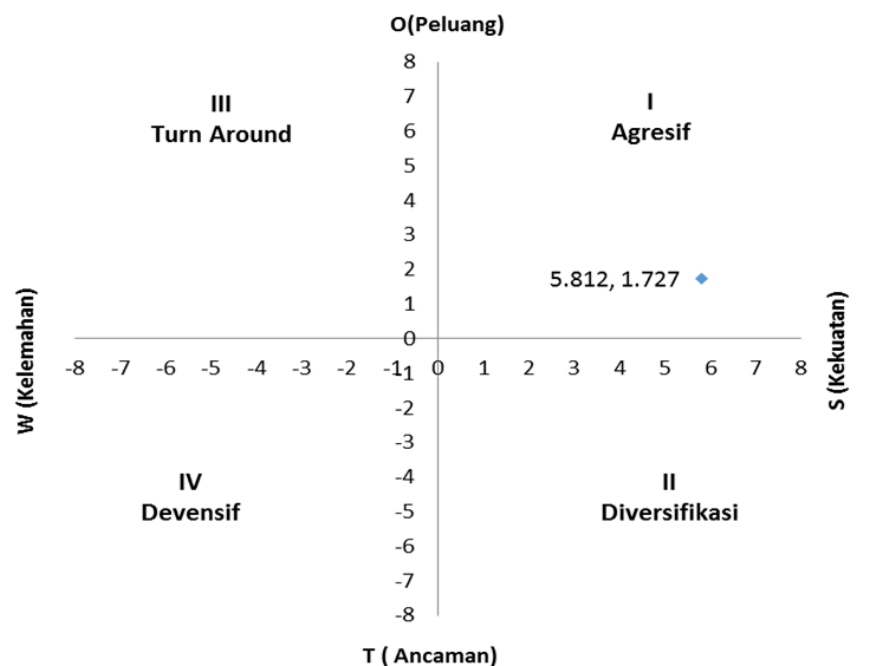


Figure 6. Cartesian Chart Map of the Economic Recovery Strength in the Agricultural Sector

Economic recovery strategy in the agricultural sector of Central Java with the position of having the power to take advantage of existing opportunities. With the strengths of the agricultural sector as the backbone of the economy (GDP and employment) and the opportunity for the agricultural sector to be the main source of raw materials for the MSME sector, the strategy for economic recovery in the agricultural sector in Central Java consists of a short-term strategy (1 year)- the Covid pandemic period, the medium-term strategy (2-3 years) - the transition period between the Covid and post-Covid pandemics, and the long-term strategy (up to 5 years) - the post-Covid period. Economic recovery strategy in the agricultural sector in Central Java as shown in table 4.

Table 4. Economic Recovery Strategy in the Agricultural Sector

Strategi SO		STRENGTH		
O P P O R T U N I T I E S	Th e ma in so urc e of ra w ma teri als for the M S M E sec tor	The backbone of the economy (GDP and employment)		
		Short Term (1 year)/ Covid pandemic period	Medium T erm (2-3 years) / transition period	Long Term(up to 5 years)/ post Covid
		1. Application of health protocols specific to the agricultural sector.	1. Recovery of production capacity and increase in agricultural productivity	1. Food safety management, traceability & food waste handling
		2. Strengthening production, harvest and post-harvest technology (processing innovation) and market access (online market development)	2. Initiation of food safety, traceability & handling of food waste	2. Institutional strengthening of farmers (BUMP), fishermen and fish cultivators (BUMNel)
		3. Development of innovative agricultural cultivation systems (eg. urban farming)	3. Institutional initiation of farmers, breeders, fishermen, fish cultivators	3. Agricultural development as a lifestyle for urban communities and the involvement of women farmers and millennials/generation Z in agriculture
		4. Policies to anticipate the increasing demand for processed food products, health food and functional food due to the Covid-19 pandemic	4. Creative economy development to increase added value and competitiveness	4. Urban agricultural agglomeration as a local tourism destination
		5. Bringing agricultural industrial products closer to end	5. Strengthening agricultural production and processing systems for import substitution and promotion of MSME product exports	5. Strengthening agricultural production systems for import substitution and export promotion

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| consumers to increase market reach. | 6. Initiation of agriculture as a lifestyle for urban communities and the involvement of millennials & Generation Z in agriculture |
| 6. Strengthening agricultural production and processing systems as raw materials for MSMEs from imports (import substitution) | 7. Increasing the potential involvement of women farmers and the younger generation to strengthen regional food security |
| | 8. Development and optimization of regional-based production centers |

Source: Processed primary data, 2024.

The strategy of economic recovery in the agricultural sector of Central Java with the position of having the strengths of the agricultural sector is as the backbone of the economy (GDP and employment) and the opportunities (opportunities) of the agricultural sector are the main source of raw materials for the MSME sector, the strategy for economic recovery in the agricultural sector in Central Java in the short term (1 year) – during the Covid-19 pandemic: (1) Application of special health protocols for the agricultural sector; (2) Strengthening production, harvest and post-harvest technology (processing innovation) and market access (online market development); (3) Development of innovative agricultural cultivation systems (eg urban farming); (4) Policies to anticipate the increasing demand for processed food products, health food and functional food due to the Covid-19 pandemic; (5) Bringing agricultural industrial products closer to final consumers to increase market reach; (6) Strengthening agricultural production and processing systems as raw materials for MSMEs from imports (import substitution).

The direct influence of urban farming increases the welfare of the community by 27.66%, strengthens the capacity of the community to increase welfare by 55.95%, and provides business capital support to improve community welfare by 36.72%. Urban farming, community capacity-building, and business capital support provide a positive effect on improving the welfare and independence of the community in slums (Surya et al., 2020).

The medium-term (2-3 years) strategy - the recovery period for the Covid-19 pandemic is (1) Recovery of production capacity and increasing agricultural productivity; (2) Initiation of food safety, traceability & handling of food waste; (3) Institutional initiation of farmers, breeders, fishermen, fish cultivators; (4) Development of creative economy to increase added value and competitiveness; (5) Strengthening agricultural production and processing systems for import substitution and export promotion of MSME products; (6) Initiation of agriculture as a lifestyle for urban communities and the involvement of millennials & generation Z in agriculture; (7) Increasing the potential involvement of women farmers and the younger generation to strengthen regional food security; (8) Development and optimization of regional-based production centers.

One of the efforts to increase productivity, farm efficiency, and competitiveness of farmers is carried out through the development of farmer economic institutions, including strengthening the capacity of farmers' economic institutions, in the form of Farmer-Owned Enterprises (BUMP). (Ministry of Agriculture, 2017)

The long-term strategy (up to 5 years) – the post-Covid-19 pandemic is (1) Management of food safety, traceability & handling of food waste; (2) Strengthening of farmer institutions (BUMP), fishermen and fish cultivators (Fishermen-Owned Enterprises); (3) Development of agriculture as a lifestyle for urban communities and the involvement of women farmers and millennials/generation Z in agriculture; (4) Urban agricultural agglomeration as a local tourism destination; (5) Strengthening the agricultural production system for import substitution and export promotion. In line with (Iese et al., 2021) stated that Future interventions would benefit from being more inclusive of diverse partners, focusing on strengthening cultural and communal values, and taking a systemic and long-term perspective. COVID-19 has provided an opportunity to strengthen traditional food systems and re-evaluate, re-imagine and re-localize agricultural production strategies and approaches. Human resource development in the agricultural sector needs to be given to young workers and elderly workers and focused on agricultural techniques to support sustainable agricultural practices, the use of agricultural technology, including digitalization in obtaining inputs to marketing output/agricultural products (Abidin, 2021).

The benefits of BUMP for farmers, namely increasing farmers' income and knowledge, making it easier for farmers to obtain agricultural inputs and working capital, making it easier for farmers to sell their crops, especially during the main harvest and rainy season, increasing yield productivity so that they can make a very significant contribution to national food security (Sahat Tua Manalu, 2018).

3.3.5. Action Plan

Action plan for economic recovery in the agricultural sector in Central Java as shown in table 5.

Table 5. Action Plan Programs/Activities in the Agricultural Sector

Program	Activity
1. Application of special health protocols for the agricultural sector.	- Preparation of health protocols for the agricultural sector in collaboration between stakeholders

	- Dissemination of health protocols for the agricultural sector - Application of health protocols for the agricultural sector
2. Strengthening production, harvest and post-harvest capacity (processing innovation) and market access (market development)	- Emergency response strategy: maintaining the household life of cultivators and fishermen in order to survive, be healthy, and continue to pursue their profession (social assistance) - Development of production facilities and infrastructure. Providing assistance and soft loans for production facilities and infrastructure (Aid for seeds/seedlings, broodstock, feed, equipment, insurance) - Cheap credit access
3. Development of creative economy to increase added value and competitiveness	- Development of primary and secondary products with a collaborative system between agricultural associations/Farmers-Owned Enterprises/Fishermen-Owned Enterprises with other stakeholders in the development of agriculture-based businesses (eg restaurants and agro-tourism) with a partnership/franchise system
4. Antisipasi peningkatan permintaan produk pangan olahan, pangan kesehatan dan pangan fungsional	- Pengembangan dan penerapan sistem logistik daerah (sislogda) untuk produk berbasis pertanian - Pengembangan pasar online

5. Recovery of production capacity and increase in agricultural productivity through strengthening of agricultural production and processing systems for the supply of imported MSME raw materials (import substitution) and promotion of MSME product exports	Upstream Sector (production technology) - Provision of agricultural production infrastructure (superior seeds, fertilizers, environmentally friendly pesticides, agricultural machinery) - Provision of harvest and post-harvest infrastructure (agricultural machinery: cool storage) - Improving the ability and skills of farmers in implementing GAP, GHP through field schools and training Downstream Sector - Improve the ability and skills of farmers in implementing GMP through field schools and training - Increasing the ability and skills of farmers in using digital technology to market agricultural products - Development of an integrated market information system involving farmer groups and consumers - Development of water-saving, feed-saving and environmentally friendly aquaculture technology - Development of superior broodstock and seeds - Product exhibition and promotion
6. Improved food safety, traceability & handling of food waste	- Socialization and development of certification of agricultural systems and agricultural products
7. Initiatives for growing agriculture as a lifestyle for urban communities and increasing the role of women, millennials/generation Z in agriculture	- Agricultural socialization as a source of livelihood and livelihood
8. Development and optimization of regional-based production centers	- Development of agroecology-based agricultural areas towards farmer corporations
9. Institutional development of farmers, fishermen and fish cultivators	- Development of farmer/fisherman economic institutions (KEP) - Establishment of Farmer-Owned Enterprises (BUMP) and Fishermen/Cultivator-Owned Enterprises (BUM Nel)
10. Development of urban agriculture as a local tourism destination	- Urban agricultural agglomeration

Source: Processed primary data, 2024.

Action Plan programs/activities in the agricultural sector as a strategy for economic recovery in the agricultural sector in Central Java are as follows:

- 1) Application of health protocols specifically for the agricultural sector, with activities (a) Preparation of health protocols for the agricultural sector in cooperation between stakeholders; (b) Dissemination of health protocols for the agricultural sector; (c) Application of health protocols for the agricultural sector.
- 2) Strengthening production, harvest and post-harvest capacity (processing innovation) and market access (market development), through activities: (a) Emergency response strategy: maintaining the household life of cultivators and fishermen so that they can survive, be healthy, and continue to pursue their profession (social assistance); (b) Development of production facilities and infrastructure. Providing assistance and soft loans for production facilities and infrastructure (assistance for seeds/seedlings, broodstock, feed, equipment, insurance); (c) Access to cheap credit.
- 3) Development of creative economy to increase added value and competitiveness, through activities: (a) Development of primary and secondary products with a collaborative system between agricultural associations/Farmers-owned enterprises/Fishermen-owned enterprises and other stakeholders in the development of agriculture-based businesses (eg restaurants and agro-tourism) with a partnership / franchise system.
- 4) Anticipate the increasing demand for processed food products, health food and functional food, through the following activities: (a) Development and implementation of regional logistics system (sislogda) for agriculture-based products; (b) Development of online market.
- 5) Recovery of production capacity and increase in agricultural productivity through strengthening of agricultural production and processing systems for the supply of imported MSME raw materials (import substitution) and promotion of MSME product exports, through the following programs/activities:
 - Upstream sector (production technology), consisting of: (a) Provision of agricultural production infrastructure (superior seeds, fertilizers, environmentally friendly pesticides, agricultural machinery), (b) Provision of harvesting and post-harvest infrastructure facilities (agricultural machinery: cool storage) , (c) Improving the ability and skills of farmers in implementing GAP, GHP through field schools and training.
 - Downstream Sector (processing and marketing), consisting of: (a) Improving the ability and skills of farmers in implementing GMP through field schools and training, (b) Improving the ability and skills of farmers in using digital technology to market agricultural products, (c) Development an integrated market information system involving farmer groups and consumers, (d) development of water-saving, feed-saving and environmentally friendly aquaculture technology, (e) development of superior broodstock and seeds, (f) product exhibition and promotion.
- 6) Improving food safety, traceability & handling of food waste, through outreach activities and development of certification of agricultural systems and agricultural products.

- 7) Initiatives for growing agriculture as a lifestyle for urban communities and increasing the role of women, millennials/generation Z in agriculture, through agricultural socialization activities as a source of livelihood and livelihood.
- 8) Development and optimization of regional-based production centers, through the activities of developing agroecology-based agricultural areas towards farmer corporations.
- 9) Institutional development of farmers, and fishermen and fish cultivators, through the following activities: (a) Development of farmer/fisherman economic institutions, (b) Establishment of Farmer-Owned Enterprises and Fishermen/Cultivator-Owned Enterprises.
- 10) Development of urban agriculture as a local tourism destination, through the following activities: Urban agricultural agglomeration

4. CONCLUSION

In the agricultural sector, the Covid-19 pandemic in Central Java has had an impact on decreasing production sales, farming profits, selling prices for crops, increasing farming costs, labor costs, transportation costs and other costs.

The need for recovery of economic conditions during and after the Covid-19 pandemic for the Agriculture sector in Central Java is (a) Recovery of production and productivity; (b) Institutional strengthening of farmers, fishermen and fish cultivators (Fishermen-Owned Enterprises); (c) Strengthening production technology and market access (online market development); (d) Creative economy development; (e) Preparation of processes & procedures for managing food safety, traceability & food waste.

Economic recovery strategy in the agricultural sector of Central Java with the position of having the power to take advantage of existing opportunities. With the strengths of the agricultural sector as the backbone of the economy (GDP and employment) and the opportunity for the agricultural sector to be the main source of raw materials for the MSME sector, the strategy for economic recovery in the agricultural sector in Central Java consists of a short-term strategy (1 year)- the Covid pandemic period, the medium-term strategy (2-3 years) - the transition period between the Covid and post-Covid pandemics, and the long-term strategy (up to 5 years) - the post-Covid period. Short-term strategies include the development and implementation of health protocols specifically for the agricultural sector. The medium-term strategies include restoring production capacity and increasing agricultural productivity. Long-term strategies include food safety management, traceability & food waste management. This policy is projected to change the face of agricultural MSMEs in Central Java from what was previously fragile and traditional to an innovative, highly competitive, inclusive, and sustainable sector.

The next research is expected to examine the ability of MSMEs in the agricultural sector to adapt and innovate through digitalization supported by literacy (especially financial), as well as government policies to support increased literacy, digital technology adoption and encourage a culture of innovation for MSMEs to build resilience and sustainable performance.

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