Agricultural Entrepreneurial Strategy during the COVID-19 Pandemic Case Study of Garut, Indonesia

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AGRICULTURAL ENTREPRENEURIAL STRATEGY DURING THE COVID-19 PANDEMIC: CASE STUDY OF GARUT, INDONESIA

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ABSTRACT

This study aims at proposing a business strategy to maintain the agricultural sector in Garut Regency during the Covid-19 Pandemic. Regardless of the fact that all sectors need special strategies to survive during the COVID-19 pandemic, there are still limited studies focusing on entrepreneurship strategies in the agriculture sector. The method used in this research was descriptive-qualitative with Garut Regency, Indonesia as the case study. Observations were made for a period of one year from October 2019 to October 2020 to observe the resilience of the agricultural sector in Garut district, Indonesia, as primary data and literature review was also used to support this analysis. The data collection results show a reduction in sales and production during the Covid-19 Pandemic due to physical distancing and other social restrictions policies that hinder activities, including the process of purchasing and distributing goods. During the COVID-19 pandemic, the agricultural sector of Garut Regency used a closed-loop strategy, namely by establishing cooperation between farmers and the industrial as well as retail sectors. The success of implementing this strategy is shown from the stable amount of chili agricultural production during the pandemic, as shown in Tables 1 and 2. Therefore, to support this strategy, a supporting strategy that considers internal and external factors in the agricultural sector is needed. This study uses SWOT analysis to determine important aspects in formulating solutions to agricultural problems during the pandemic. Based on the identified factors, various strategies were obtained to strengthen the economic structure of farmers from the short to the long term. As a result, farmers are expected to increase production and welfare as well as can become a momentum for strengthening national food independence. It is hoped that this research can be used as a reference for other researchers in their research and add insight.

Keywords: Agriculture, Entrepreneurship, Farmer, Economic, Covid-19, SWOT

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INTRODUCTION

Agriculture utilizes biological and natural resources by humans to produce foods, industrial raw materials, or energy sources. It also helps humans to manage their environment (Purba et al., 2020). Farming is a part of agriculture with different fields. Agriculture covers a wide production area, including development, research, and implementation of agricultural activities (Saiz-Rubio and Rovira-Más, 2020). Currently, entrepreneurship in the field of agriculture has become a trend. Agricultural entrepreneurship is a tool to empower rural communities engaged in agriculture to start businesses in improving the welfare of farmers (Dias et al, 2019). Agricultural entrepreneurs are farmers under 45 years old and have managed agricultural land directly. Entrepreneurs in agriculture must have awareness and motivation for entrepreneurship, participating in increasing village growth through sustainable agricultural development programs using technology and broad connectivity to develop agricultural potential (Choudhury and Easwaran, 2019).

Currently, agriculture is one determining factor in achieving sustainable development goals (zero hunger). Therefore, the agricultural sector is currently concerned about its sustainability. Indonesia is one of the agrarian countries with geographical conditions that have the potential for the agricultural sector, contributing to achieving sustainable development goals. It is shown by Indonesia's contribution in making agriculture the primary source of livelihood. Based on Statistics Indonesia (BPS) data, the most significant number of workers in the agricultural sector as of August 2020 was 38.23 million workers, or 29.76% of the total of 128.45 million Indonesian workforces (Mukti et al, 2020). The trend of agricultural development in Indonesia currently leads to agricultural entrepreneurship in the form of agricultural business, livestock business, fishery business, manufacturing business, tourism service business, and others (Perwita, 2020). The agricultural sub-sector that is widely developed and cultivated in Indonesia is horticulture. Horticultural products have the second-highest export value of agricultural products compared to other plantation sub-sectors. Red chili pepper (Capsicum annum L.) is one of the leading horticultural commodities in Indonesia. One of the largest chili-producing provinces in Indonesia is West Java Province, with a total production of ± 22.9% (Hayuningtyas & Yuliasih, 2020).

Chili is one of the commodities that affect inflation experienced by Indonesia in 2010; chili contributed 0.32 to the total inflation of 6.96%. However, from 2017 to 2019, chili production increased by 6.47 to 25.53% (Mariyono and Sumarno, 2015). Therefore, development in the agricultural sector is needed to increase the quantity and quality of Indonesian chili. The support was done by several programs such as Food Security Improvement Programs, Agribusiness Development, Farmers' Welfare Improvement, and Rural Agribusiness Development (PUAP) (Alamsyah et al., 2015).

Therefore, this study proposes a business strategy through SWOT analysis to maintain the chili agricultural sector during the Covid-19 Pandemic in Garut Regency. This research used descriptive-qualitative observation and interviews as primary data collection techniques and Literature Review as secondary data collection techniques.

LITERATURE REVIEW

Agriculture sector before and during the pandemic

The development of the global agricultural sector is facing the Covid-19 Pandemic in 2021. It will experience many changes, including consumer behavior, technological disruption, international trade policies, fiscal and monetary stimulus measures, as well as the transformation of the food system (Outlook Ekonomi Pertanian, 2021). The same thing also happened in Indonesia. The agricultural sector in Indonesia can supply important commodities such as natural rubber, coffee, cocoa, palm oil, rice, and spices worldwide. Therefore, the role of the agricultural sector in 2020 needs to be maintained and improved to encourage economic growth in 2021. However, the production of food and horticulture crops in Indonesia is relatively low, which results in a high import of horticultural products. Garut regency became one of the agriculture centers in Indonesia. Garut Regency has potential in agriculture with a variety of commodities. Agriculture in Garut Regency is the main livelihood of the local people because the area is located at an altitude of 1300 masl. This altitude is suitable for the development of the agricultural sector.

Agricultural commodities cultivated in Garut Regency, including chili, corn, mustard greens, cabbage, tomatoes, shallots, citrus, and others. Therefore, with high yields from the agricultural sector, Garut Regency is an area that supplies the food needs of people in its surrounding area, such as Bandung, Jakarta, and others. Garut Regency's contribution to the economy in the agricultural sector in the surrounding area is 40% (RPIJM Garut Regency, 2015-2019). The high role of this sector is due to agricultural management, which tends to be traditional and does not depend on imported materials. Therefore, it is based on simple technology. However, it has resulted in slower economic growth in Garut Regency than other regencies in West Java Province (Zuraida, 2011).

Therefore, to increase the growth rate in Garut Regency and improve its quality, it is necessary to implement agricultural entrepreneurship (Putra, 2020; Poapongsakorn, 2017). Agricultural entrepreneurship can be applied with entrepreneurship public awareness and good business management skills. Moreover, they can have competitiveness to face changes in the agricultural business.

The Agricultural Sector Role in a Country's Economy

Asia is the most productive region in producing products in this sector compared to other continents. It is supported by climatic conditions that are suitable for agricultural activities. The production value of the Asian agricultural sector from 2007 to 2016 was the highest compared to other continents, with an average total production of $1.22 trillion and a growth of 2.5% per year. One of the centers of agriculture in Southeast Asia is Thailand. Agriculture in Thailand is one of the most important economic sectors, as shown from the number of workers that reach 30% of the total workforce. It is also experienced by Assam, Northeast India, where entrepreneurship in the agricultural and agribusiness sectors improves village development, especially villages with the geographical potential for various crops and horticultural productivity (Moromi, & Debayit, 2016). Another country in Central Asia also utilizes the agricultural sector in its economic development in Kazakhstan.

According to 2019 OECD data, Kazakhstan's agricultural sector, grain export, makes up about 4.5% of the country's economic production (Choudhury & Easwaran, 2019; Kazakhstan, 2019).

The data from several countries above shows that the agricultural sector is one of the leading sectors as the economic support for the various Asian countries economies. The agricultural sector is supported by climate and geographical conditions suitable of farming activities.

METHOD

The method used in this study was the descriptive-qualitative method using a case study. The primary data collection technique is observation to Garut Regency, specifically in Cigedug subdistrict as the chili center. It is chosen because the subdistrict can support chili commodity needs in the agricultural sector in West Java province by 38%. It is also nationally contributed by 10-12% to the national chili demand. The primary data collection was carried out by interviewing farmer groups to determine the reach of agricultural areas. It is also done to determine which plant types will be produced and planting period or information regarding the distribution of products to the market, supported by field observations. Meanwhile, the secondary data collection techniques used the Literature Review on agriculture entrepreneurship and statistical reviews of data from the Central Statistics Agency and Garut Regency agriculture office.

SWOT is a strategic analysis technique that aims at identifying the strengths and weaknesses of the object under study to achieve the desired target. SWOT is an acronym for Strength, Weakness, Opportunity, and Threat. It is applied by analyzing and sorting out various factors that affect the four factors and mapped in a SWOT matrix (Table 1).

As shown in Table 1, Strength is an internal factor that can take advantage of Opportunity and avoid Threats, while weakness is an internal factor that can manifest Threat and prevent Opportunity. In addition, Opportunity is an external factor that can be used by a business to overcome weaknesses, and Threat is an external factor that can prevent business goals achievement.

Table 1: SWOT Analysis Matrix

	Strengths 1. 2. 3. 4.	Weakness 1. 2. 3. 4.
Opportunities 1. 2. 3. 4.	Opportunities-Strength strategies: Use strengths to take advantage of opportunities 1. 2.	Opportunities-Weakness strategies: Overcome weakness by taking advantage of opportunities
Threats 1. 2. 3. 4.	Threats-Strength strategies: Use strength to avoid threats 1. 2.	Threats-Weakness strategies: Minimize weakness and avoid threats 1. 2.

RESULTS AND DISCUSSION

Garut Regency Agricultural Sector Production Data

One of the leading commodities in the agricultural sector in Garut Regency is chili, consisting of chili pepper (Capsicum frutescens) and red chili pepper (Capsicum annuum L.). Based on data from the BPS for Chili Production in Garut Regency in 2017, chili farmers from 42 subdistricts produced a total chili production of 1,731,770 quintals. The type of red chili pepper with a total production of 1,143,240 quintals, while chili pepper produces 588,530 quintals. However, with the availability of labor mobilization, farmers have difficulty obtaining fertilizer, feed, and agricultural spare parts due to distribution disruptions. It has a large influence on the production chain of agricultural commodities.

Table 2: Chili Production Data in Garut Regency on 2019

No	Subdistrict	Red Chili Pepper Harvest Area (Ha)	Chili harvest area (Ha)	Productions (quintal)		
				Red Chili Pepper	Chili pepper	Total
1	Cisewu	118	96	16420	29440	32982
2	Caringin	649	244	79825	145723	103241
3	Talegong	84	36	18799	27280	17729
4	Bungbulang	0	70	0	19799	11386
5	Mekarmukti	0	38	0	16975	5264
6	Pamulihan	125	100	16060	27648	31922
7	Pakenjeng	138	64	21514	28762	25251
8	Cikelet	20	16	1770	2920	3431
9	Pameungpeuk	2	1	268	521	138
10	Cibalong	0	21	0	1017	3371
11	Cisompet	0	5	0	4305	720
12	Peundeuy	61	42	8985	14431	20264
13	Singajaya	30	10	4448	5610	6286
14	Cihurip	4	10	490	756	3601
15	Cikajang	527	413	75781	127962	128314
16	Banjarwangi	84	61	12564	19778	20324
17	Cilawu	506	223	47907	70862	126604
18	Bayongbong	192	58	30035	36554	49099
19	Cigedug	311	238	46252	74941	82500
20	Cisurupan	558	332	78417	112345	145749

Table 2: Continued

21	Sukaresmi	317	207	46810	74505	70870
22	Samarang	197	185	30073	41975	80742
23	Pasirwangi	337	361	46420	78267	105819
24	Tarogong Kidul	5	6	553	791	1798
25	Tarogong Kaler	73	6	11205	14781	2916
26	Garut Kota	44	9	6740	11153	2971
27	Karangpawitan	137	27	19691	22888	24915
28	Wanaraja	248	42	33146	38457	44286
29	Sucinaraja	325	66	48581	59078	51495
30	Pangatikan	352	19	48829	71424	55867
31	Sukawening	58	9	8548	10141	8865
32	Karangtengah	15	11	1943	3214	4054
33	Banyuresmi	671	59	98884	102999	109143
34	Leles	177	35	26373	27830	35917
35	Leuwigoong	23	23	3334	5168	7841
36	Cibatu	26	28	3503	10188	7837
37	Kersamanah	0	0	0	0	507
38	Cibiuk	41	28	5559	9374	9176
39	Kadungora	64	21	9571	14873	8810
40	Blubur Limbangan	18	12	2756	5693	5048
41	Selaawi	0	5	0	1217	689
42	Malangbong	86	4	1363	13952	17502
Total		**6672**	**3.241**	**925690**	**459907**	**1385597**

Source: BPS Garut Regency Chili Production in 2019

It is proven by the total chili production in Garut Regency in 2020 (during the pandemic) is 1,475,244 quintals, with the production of red chili pepper as much as 1,013,184 quintals (down ± 11.38%), and 462,060 quintals for chili (down ± 21). ,49%). From tables 2 and 3, it is known that the production of chili commodities in Garut district during the covid-19 pandemic can survive and increase.

Table 3 shows the total production of red chili pepper and chili pepper in Garut Regency by subdistricts. The subdistrict with the largest production yield for red chili pepper in 2020 is the Cisurupan subdistrict, which is 101.772 quintals with a harvested area of 657 ha. As for chili, it is produced by the Cikajang subdistrict with a total production of 54,797 quintals in 413 ha.

Table 3: Chili Production Data in Garut Regency on 2020

No	Subdistrict	Red Chili Pepper Harvest Area (Ha)	Chili harvest area (Ha)	Productions (quintal)		
				Red Chili Pepper	Chili pepper	Total
1	Cisewu	118	96	18813	14169	32982
2	Caringin	459	244	69229	34012	103241
3	Talegong	84	36	12791	4938	17729
4	Bungbulang	0	70	0	11386	11386
5	Mekarmukti	0	38	0	5264	5264
6	Pamulihan	116	100	18204	13718	31922
7	Pakenjeng	108	64	16193	9058	25251
8	Cikelet	8	16	1477	1954	3431
9	Pameungpeuk	0	1	0	138	138
10	Cibalong	3	21	487	2884	3371
11	Cisompet	0	5	0	720	720
12	Peundeuy	98	42	14819	5445	20264

Table 3: Continued

13	Singajaya	24	10	4367	1919	6286
14	Cihurip	13	10	2045	1556	3601
15	Cikajang	495	413	73517	54797	128314
16	Banjarwangi	83	61	12480	7844	20324
17	Cilawu	468	223	76838	49766	126604
18	Bayongbong	292	58	41291	7808	49099
19	Cigedug	367	238	52165	30335	82500
20	Cisurupan	657	332	101772	43977	145749
21	Sukaresmi	286	207	43430	27440	70870
22	Samarang	378	185	56139	24603	80742
23	Pasirwangi	386	361	57506	48313	105819
24	Tarogong Kidul	6	6	933	865	1798
25	Tarogong Kaler	12	6	2021	895	2916
26	Garut Kota	11	9	1711	1260	2971
27	Karangpawitan	138	27	21232	3683	24915
28	Wanaraja	239	42	37511	6775	44286
29	Sucinaraja	284	66	42451	9044	51495
30	Pangatikan	308	19	52664	3203	55867
31	Sukawening	52	9	7715	1150	8865
32	Karangtengah	14	11	2592	1462	4054
33	Banyuresmi	636	59	100911	8232	109143
34	Leles	222	35	31160	4757	35917
35	Leuwigoong	29	23	4467	3374	7841
36	Cibatu	19	28	3083	4754	7837
37	Kersamanah	3	0	507	0	507
38	Cibiuk	35	28	5377	3799	9176
39	Kadungora	40	21	5998	2812	8810
40	Blubur Limbangan	14	12	2364	2684	5048
41	Selaawi	0	5	0	689	689
42	Malangbong	99	4	16924	578	17502
Total		**6604**	**3.241**	**1013184**	**462060**	**1475244**

Source: BPS Garut Regency Chili Production in 2020

To clarify the distribution of chili production data, it will be presented on a map to provide a clearer visualization based on its geographical value. Figure 1 illustrates chili production data, which is grouped into 5 groups based on their production, namely < 2,500, 2,500 – 5,000, 5,001 – 7,500, 7,501 – 10,000, and > 10,000. A different color represents each group.

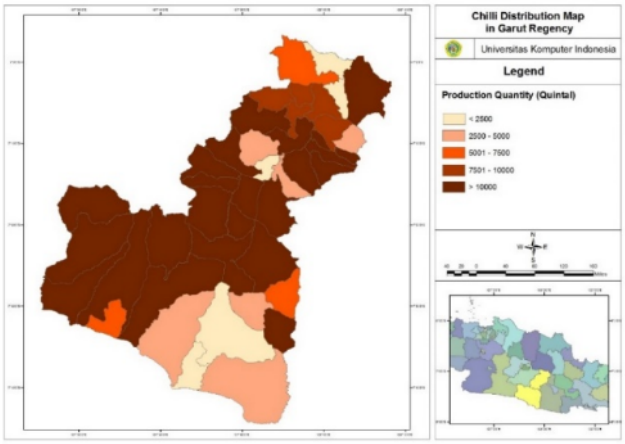

Figure 1: Chili Distribution Map in Garut Regency

Figure 1 shows that every subdistrict in Garut Regency has many chilies production, which is marked by a densely colored area. The map also shows that Garut Regency is an agricultural center, especially chili, that can support agricultural products in Indonesia.

Closed Loop Strategy in Garut Regency

During the COVID-19 pandemic in Indonesia, in 2020 Garut Regency used a closed-loop strategy to maintain and improve the welfare of farmers. The closed-loop strategy is applied using the concept of Closed-Loop Marketing, namely by utilizing long-term relationships between consumers, investors, and companies. In agriculture in Garut Regency, the closed-loop strategy synergizes the agricultural value chain, from upstream to downstream, to create competitive and equitable efficiency. The initial implementation of this strategy was carried out in the Eptilu Agrotourism Area of 3 hectares spread across the Cigedug District. The success of this application encourages the implementation of a closed-loop strategy in every agricultural area in Garut Regency. The agricultural scheme of the Closed Loop System in the manufacture of superior chilli seeds in collaboration with PT Ewindo is shown in Figure 2.

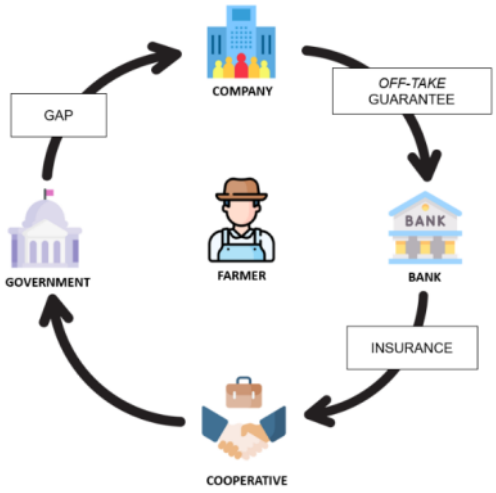

Figure 2: Closed Loop Strategy

The Closed Loop System farming scheme considers 6 crucial aspects, namely:

1. A well-established customer relationship will affect the average income level of Garut Regency farmers. However, several important factors are considered in maintaining customer relationships, customer acquisition, customer base development, and customer behavior.
2. The customer life cycle is a scheme to tie agricultural commodity customers (companies, government, or private) to farmers or suppliers in the long term. Therefore, it is necessary to optimize the values of the customer experience from start to finish when buying products with farmers in Garut Regency.
3. The customer segment is a segment that pays attention to each customer's interests, preferences, and desires from agricultural commodities in Garut Regency. The types of customers can be divided based on segments supporting the buying process, decision making, and increasing the relevance of marketing activities.
4. Multichannel marketing is the interaction of agricultural commodity customers with diverse farmers. Channels relevant to the target group and a multichannel approach can guide communication behavior so that customers can choose their preferred channel for themselves. The integrated approach ensures coherent communication along the customer funnel.
5. The touchpoint consists of digital channels and offline interactions that are part of the customer and farmer touchpoints. The customer's brand experience is shaped by paying attention to brand awareness, up-selling and cross-selling, retargeting.
6. The customer journey is a factor in making purchasing decisions. These factors include channels, points of contact, and customer contact.

Internal and External Factors Identification

Various efforts have been made to find the suitable model to anticipate the ongoing impact of the Covid-19 Pandemic. The Indonesian agricultural sector, especially agriculture with chili commodities in Garut Regency, needs to develop appropriate actions to anticipate the negative impact of the pandemic. Various strategies need to be taken to strengthen the economic structure and transformation in the medium-to-long term, especially for farmers during the pandemic.

Table 4: Internal and external factors identification

Strength	Weakness
Suitable geographic conditions	Limited access to modern technology
Huge domestic demand	Dependence on climatic conditions
Availability and productivity of land	Lack of professional management
Contributor of agriculture to the local economy	Lack of market availability for agricultural products, still dependent on distributors, and traditional markets.
The existence and institutions of agricultural management and related institutions (farmer groups, farmer cooperatives, etc.)	
Opportunity	**Threat**
Increase market demand for chili	Global competition
Central government support for chili development	Unorganized market
Program development planning	Price Fluctuations
Survival of superior chili varieties	Climate change and the presence of plant disease organisms, pests, and weeds.
Agricultural resource potential	

To maintain the stability of the agricultural sector in Garut regency, a SWOT analysis was carried out to obtain the right strategy. Table 4 shows the identification of internal and external factors of chili farming in Garut regency as the initial stage of SWOT Analysis. By knowing the factors of Strengths, weaknesses, threats, and opportunities in agriculture in Garut Regency, farmers can determine strategies to continue to survive various pressures due to the COVID-19 pandemic

Internal Factors

Internal factor analysis aims at finding trends and events within the agricultural field of the chili farming sector in Garut Regency. The variables identified were from the chili agricultural sector, namely strengths and weaknesses.

1. Strength
   - Suitable geographic conditions

     Garut Regency is categorized as a humid tropical climate with an average rainfall around Garut regency ranging from 2,589 mm per year. The location of the area near the mountain also affects its temperature in the area. With these conditions, it becomes a strategic location for the agricultural industry development.
   - Huge domestic demand

     The demand for chili commodities in Indonesia is high because most Indonesian people like spicy foods, making many foods and snacks contain chili. This condition directly influences the demand for chili commodities.
   - Availability and productivity of land

     The potential harvested area in Garut reaches 5,500 – 6,400 ha per year, which is supported by large chili productivity areas. The productivity of red chili peppers per year reaches 15.25 tons/ha, while for chili peppers reaches 14.24 tons/ha (Ministry of Agriculture, 2021). In addition, Garut regency provides support to other areas in West Java for chili supplies.
   - Contributor of agriculture to the local economy

     In the business field, the agricultural sector absorbs a workforce of 23.10%, making a major contribution to the formation Garut Regency economy (BPS Garut Regency, 2018).
   - The existence and institutions of agricultural management and related institutions:

     The existence of farmer groups, agencies, farmer cooperatives, and others in

managing agricultural affairs makes coordination between farmer groups or farmer-market groups to be well-coordinated.

2. Weakness
   - Limited access to modern technology

     Cigadung subdistrict is a village located quite far from the city so that infrastructure and access to technology are not as advanced as in the city and its surroundings.
   - Dependence on climatic conditions

     The harvest time still follows climate conditions because no system allows farmers to deal with counter-productive climates such as drought.
   - Lack of professional management

     The distribution pattern of agricultural products, which has a relatively short chain, causes the agricultural sector to be not optimal. Therefore, stimulating the development of other sectors in the Garut Regency will also be not optimal. It causes the maximum gross value-added, which has implications for the low productivity of the population.
   - Lack of market availability for agricultural products, still dependent on distributors and traditional markets

     Farmers are still selling the chili to middlemen who will buy it below market price, and the middlemen sell the chili at market price and receive more profit. In addition, the farmers would only get a small amount of profit compared to the middlemen.

External Factors

External factor analysis aims at identifying trends and events outside the control of the chili farming sector in Garut Regency. The variables identified were not from the chili farming sector, namely, opportunities and threats faced.

1. Opportunity
   - Increase market demand for chili

     The trend of people regarding spicy food or snacks is rising, which makes chili consumption and product demand also rise.
   - Central government support for chili development

     The Agricultural Human Resources Extension and Development Agency (BPPSDMP) in 2020 has launched the Agricultural Development Strategic Command Movement (Kostratani) program in Garut to increase agricultural productivity by conducting a program to train farmers.
   - Program development planning

     There is a plan to develop the agricultural sector, such as Rural Agribusiness Development (PUAP). PUAP is a form of business capital assistance facilitation for farmers, both owner farmers, sharecroppers, farm laborers, and farm households coordinated by the Farmers Association.
   - Survival of superior chili varieties

     Chili farmers in Garut have been introduced to the double-fold production technology (Proliga) of red chili pepper by the Research and Development Agency (Balitbangtan) and the Ministry of Agriculture (Kementan). This technology is a chili cultivation technique that can multiply farmer productivity and introduce superior chili varieties, namely carvi agrihorti chili.
   - Agricultural resource potential

     The potential of chili farming still has a lot of potential because chili production can still be increased further.
2. Threat
   - Global competition

     Indonesia has a high demand for chili commodities, but with production that has not met market demand, the government often imports chili.
   - Unorganized market

     The dominant harvest is distributed to the main market because village collectors face price fluctuations to get a higher price. Farmers depend on collecting traders because of limited knowledge. Besides, farmers also do not have transportations to distribute red chili peppers.
   - Price Fluctuations

     Lack of control and supervision over distribution could lead to hoarding or delivery loss, thereby increasing market prices.
   - Climate change and the presence of plant disease organisms, pests, and weeds

     Changes in the world's climate can disrupt atmosphere stability in the fields. Viruses, pests, and weeds can also kill or reduce the

quality of chili plants, especially with the use of excess chemicals that can strengthen existing viruses or pests in the long term.

SWOT Matrix

The strategies to help maintain the agricultural sector's stability, especially chili commodities in Garut Regency, are presented based on four strategies, namely SO, WO, ST, and WT (Table 5).

- **S-O Strategy**

1. Increase the promotion of superior products

Increased marketing of superior products can be popular faster because the uniqueness of the product can stand out more than other similar products. In addition, the promotion of superior products can also be interpreted as an effort to compete in local and international markets.

2. Improve the quality and quantity of chili products

By increasing the quality and quantity of the product, chili commodities will increase supply and demand from the community. More supply can also keep commodity prices within reasonable limits.

3. Optimization of existing land use

Land optimization means maximizing production, which directly contributes to chili commodities. However, land expansion is not the main focus because the main focus of optimization is maximizing the potential in a land.

- **W-O Strategy**

1. Utilizing digital-based marketing.

The use of digital-based marketing can reach various circles of society because currently, most people have gadgets and internet access. Another effect is that farmers can apply insights about e-marketing to support their family life.

2. Improving agricultural facilities and infrastructure.

Developing agricultural support facilities and infrastructure can reduce the negative impacts of various factors such as pests, diseases, or a hostile climate. It can reduce the workload and streamline the crop management process on the farmer's side.

- **S-T Strategy**

1. Strengthening local chili development.

Strengthening local products can maintain position and compete with foreign products. Therefore, it can maintain the welfare of farmers and the country's economy. Nationally, the development of chili quality will also be well received by the community and increase consumer satisfaction to increase the demand.

2. Facilitate the farmers in marketing the product.

By facilitating farmers, the independence of farmers will grow to minimize dependence on distributors. In addition, the possibility of hoarding chilies by individuals would be kept to a minimum. It can prevent price fluctuations caused by hoarding.

- **W-T Strategy**

1. Do market research.

Market research aims at identifying market needs and product management to achieve suitability. In addition, market research can also help to analyze competing products and prepare strategies to compete in market competition, especially in international markets.

2. Procurement of agricultural technology training by the government.

The training on agricultural technology aims at increasing farmers' insight and familiarize themselves with tools. In the future, it can help farmers in their work because technological innovations are aimed at helping to overcome or simplify human affairs so that farmers can achieve maximum output but with a lighter workload.

A SWOT analysis has been carried out to maintain chili's supply and competitive power to identify the factors owned by chili farmers in Garut regency as one of the chilies producing regencies in Indonesia. In addition, the Covid-19 Pandemic has also repressed various sectors in Indonesia. Therefore, handling the impact of the pandemic is also needed specifically. One solution to overcome this problem is to use technology in planning and compiling the supply chain of agricultural commodities. This technology is expected to facilitate supply-demand interface services, which will be invaluable for supply chains of highly perishable goods in the harvesting and selling of agricultural products.

Table 5: SWOT Matrix

Internal / External	Strength:	Weakness:
	1. Suitable geographic conditions 2. Huge domestic demand 3. Availability and productivity of land 4. Contributor of agriculture to the local economy 5. The existence and institutions of agricultural management and related institutions (farmer groups, farmer cooperatives, etc.)	1. Limited access to modern technology 2. Dependence on climatic conditions 3. Lack of professional management 4. Lack of market availability for agricultural products, still dependent on distributors and traditional markets.
Opportunity: 1. Increase market demand for chili 2. Central government support for chili development 3. Program development planning 4. Survival of superior chili varieties 5. Agricultural resource potential	**S-O Strategy** 1. Increase the promotion of superior products 2. Improve the quality and quantity of chili products 3. Optimization of existing land use	**W-O Strategy** 1. Utilizing digital-based marketing 2. Improving agricultural facilities and infrastructure
Threat: 1. Global competition 2. Unorganized market 3. Price Fluctuations 4. Climate change and the presence of plant disease organisms, pests, and weeds.	**S-T Strategy** 1. Strengthening local chili development 2. Facilitate the farmers in marketing the product	**W-T Strategy** 1. Do market research 2. Procurement of agricultural technology training by the government to update chili farmers' knowledge

CONCLUSION

Garut Regency's agricultural sector contributes about 40% to the agricultural economy in the surrounding area. However, traditional agricultural management has resulted in slow economic growth. The Covid-19 Pandemic has an impact on farmers. A survey conducted in the Cigedug subdistrict in Garut regency shows that the government's policy regarding restrictions on work mobilization to overcome the Covid-19 Pandemic has made it difficult for farmers to obtain fertilizers feed and agricultural supporting instruments. It is due to distribution disturbances that affect the economy of farmers both in the field of production, distribution, or sale. Entrepreneurship in the agricultural sector needs to be developed as an important tool to support and improve the economy of rural farmers, especially during the pandemic. The application of agricultural entrepreneurship can be achieved with public awareness for entrepreneurship, good business management skills, and support from the government. Therefore, they can survive in the face of

problems in the agricultural business. With this problem, the right and effective strategy is needed to improve economic quality during the pandemic. The SWOT analysis results based on internal and external agricultural factors in Garut regency obtained several strategies, including training by the government to farmers to increase farmer knowledge, increase production of superior commodities, improve farmer facilities and infrastructure, and utilize digital-based marketing. With this strategy, it is expected that farmers can increase their production and welfare and strengthen national food independence.

REFERENCES

Alamsyah, M. N., Sultan, S., & Sayuti, S. (2015). Food Security and the Futures of Farmers in Decentralisation Era: a Case Study From Sigi District Central Sulawesi. KOMUNITAS: International Journal of Indonesian Society and Culture, 7(1), 118-132.

Choudhury, K., & Easwaran, K. (2019). Agricultural entrepreneurship in Lower Brahmaputra Valley, Assam. Journal of Global Entrepreneurship Research, 9(1), 1-13.

Choudhury, K., & Easwaran, K. (2019). Agricultural entrepreneurship in Lower Brahmaputra Valley, Assam. Journal of Global Entrepreneurship Research, 9(1), 1-13.

Dias, C. S., Rodrigues, R. G., & Ferreira, J. J. (2019). Agricultural entrepreneurship: Going back to the basics. Journal of Rural Studies, 70, 125-138.

Hayuningtyas, M., & Yuliasih, I. (2020). Peningkatan Kinerja, Mitigasi Risiko Dan Analisis Kelembagaan Pada Rantai Pasok Cabai Merah Di Kabupaten Garut. Journal of Agroindustrial Technology, 30(1).

Kazakhstan - Agricultural Sector: Privacy Shield. (2019). Privacyshield.gov. https://www.privacyshield.gov/article?id=Kazakhstan-Agricultural-Sector

Kumar, A., Padhee, A. K., & Kumar, S. (2020). How Indian agriculture should change after COVID-19. Food Security, 12(4), 837-840.

Mariyono, J., & Sumarno, S. (2015). Chilli production and adoption of chilli-based agribusiness in Indonesia. Journal of Agribusiness in Developing and Emerging Economies.

Moromi, G., & Debayit, B. (2016). Baseline data on area, production and productivity of horticulture crops in north-east and Himalayan states-a study in Assam dr. Agricultural Situation in India, 73(1), 37-41.

Mukti, G. W., Kusumo, R. A. B., & Pardian, P. (2020). Kecerdasan Kewirausahaan (Entrepreneurial Intellegence) Petani Muda Lulusan Universitas Padjajaran. Mimbar Agribisnis: Jurnal Pemikiran Masyarakat Ilmiah Berwawasan Agribisnis, 6(1), 54-64.

Outlook Ekonomi Pertanian. (2021). Perkuat Pembangunan Sektor Pertanian - Kementerian Koordinator Bida ng Perekonomian Republik Indonesia. (2021). Retrieved September 20, 2021, from Ekon.go.id website: https://www.ekon.go.id/publikasi/detail/1731/outlook-ekonomi-pertanian-2021-perkuat-pembangunan-sektor-pertanian

Perwita, A. D. (2020, July). Peran Wirausaha Pertanian dalam Menghadapi Era Disrupsi Inovasi. In Forum penelitian Agro Ekonomi, 1, pp. 41-58.

Poapongsakorn, N. (2017). Transformation of the Thai agriculture in the last three decades. In Thailand Development Research Institute, Project of Leibniz University Hannover. Bangkok: A regional conference organized by RESAKSS-Asia.

Purba, D. W., Thohiron, M., Surjaningsih, D. R., Sagala, D., Ramdhini, R. N., Gandasari, D., & Manullang, S. O. (2020). Pengantar ilmu pertanian. Yayasan Kita Menulis.

Putra, R. S. (2020). Analisis Produktivitas Sektor Pertanian Di Negara Asia Tenggara Tahun 1970-2016: Pendekatan Dea Malmquist Index (Doctoral dissertation, Universitas Airlangga).

Saiz-Rubio, V., & Rovira-Más, F. (2020). From smart farming towards agriculture 5.0: A review on crop data management. Agronomy, 10(2), 207.

Zuraida, R., Ramdhani, A., & Amin, A. S. (2011). Analysis of the Cultural Factors Impacts on the Development of Entrepreneurship in Garut. Jurnal Psikologi, 1(2).

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