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COFFEE AGRIBUSINESS DEVELOPMENT STRATEGY IN BANTAENG REGENCY

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Abstract

This research aims to explore information related to the socio-economic conditions of coffee farmers and geospatial data on coffee plantation land in Pattaneteang Village, Bontolojong Village, and Pabumbungang Village, Bantaeng Regency. This research also aims to identify alternative strategies that can support the development of coffee agribusiness in the region. This research method involves several steps, which include sampling techniques, data types and acquisition, data collection techniques, and data analysis methods. Data analysis in this research was carried out descriptively to provide a systematic picture of the socio-economic conditions of coffee farmers. This analysis involves applying a SWOT matrix that combines internal and external factors and the IFAS and EFAS matrices. The results of the SWOT, IFAS, EFAS, IE and QSPM methods show that increasing production quantity (SO1) and increasing production quality (WT2) are 2 appropriate strategy recommendations for developing coffee agribusiness in Bantaeng Regency. This means that utilizing strengths and opportunities to increase coffee production and strategies to minimize weaknesses and threats by improving production quality through appropriate post-harvest handling (WT2) is essential in efforts to develop coffee agribusiness in Bantaeng district.

Keywords: Coffee Agribusiness, Agricultural Development, Agricultural Strategy, Bantaeng Coffee.

1. INTRODUCTION

Agriculture in Indonesia consists of the agricultural and food subsector, plantation subsector, livestock subsector and fisheries subsector. Agriculture is the backbone of life in rural areas, and aspects of the village economy and employment opportunities are closely related to the welfare of village communities (Joris Pangiet al., 2020). Plantation is an agricultural sub-sector, one of the country's foreign exchange contributors. Most plantation businesses in Indonesia are smallholder plantation businesses, and the remainder are plantation businesses operated by the private sector and the government (Ulidesi Siadari., 2020). Coffee plants can grow at an altitude of 700 to 1400 meters above sea level with rainfall of 1500-2500 mm per year with an average dry month of 1 to 3 months with an average temperature of 15-25 degrees Celsius (Bambang Prastowoet al., 2010).

The Central Statistics Agency noted that in 2021, Indonesia will be able to produce 774.6 thousand tons of coffee. The excellent production process and quality make Indonesian coffee able to compete in the international market. This can be seen from the export value of coffee without roasting and decaffeination processes from Indonesia to the international market, reaching US$ 842.52 million with a volume of 380,173 tons. The types of coffee plants cultivated by farmers in Bantaeng Regency are arabica coffee and robusta coffee (N. Juita., al 2021).

The central statistics agency shows that coffee production in Bantaeng Regency in 2018 reached 1,680 tons with a land area of 3,840 ha. In 2019, it reached 1740 tons with a land area of 3,840 ha, while in 2020 and 2021, the respective amounts of coffee production in Bantaeng Regency reached 1,700 tons with a land area of 2,540 ha and 1,400 tons with a land area of 2,530 ha (Central Statistics Agency 2021). From the description of the data from the Central Statistics Agency, it can be seen that coffee production in Bantaeng Regency from 2018 to 2021 experienced fluctuations (Berliana et al., 2021).

Various efforts are needed to increase farmer production, especially for farmers in rural areas, one of which is by paying attention to the socio-economic conditions of farmers (La Nur Muhammad Iskandar Patola 2018. et al.). Through literature analysis (Nurlaila Hanun et al., 2018)., Ni Luh Putu Ayu Diah Permatasari et al,. 2018, La Nur Muhammad Iskandar Patola et al. 2018,Marandita There Kumaladevi., 2019., Ovy Frenzy Tarigan., et al 2021., Mochammad Farid Afandi., et al. 2021. Saraswati, et al. 2021. Dudi Septiadi., et al. 2022 and Pandu Laksono., et al. 2022), the author found that socio-economic conditions influence increasing production results and farmers' income. Apart from that, farmers' socio-economic conditions influence farmers' interest in accessing extension services and information regarding agricultural technology to increase productivity and quality of production results. One of the main obstacles in developing coffee commodities in Bantaeng Regency is the need for more data regarding the socio-economic conditions of coffee farmers and geospatial information on the location of coffee commodity development.

Previous research related to coffee commodities in Bantaeng Regency was carried out by (1) Syahruni Thamrin (2021) regarding Factors that Influence Arabica Coffee Production in Bantaeng Regency; (2) Andi RIzkiyah Hasbi (2018) on Determining Marketing Strategy Priorities for Arabica Coffee (Coffea Arabica) In Bantaeng Regency Using the AHP Method (Analytical et al.); (3) N. Juita., et al. (2020) regarding the suitability of Arabica coffee land with Parametric Approach Based on Square Root; (4) C. Lopulisa., et al. (2020) concerning the Land Suitability Index for Estimating the Potential of Arabica Coffee Plantation Land: Case Study of Tompobulu District, Bantaeng Regency. Previous research needed more explanations regarding geospatial information and coffee farmers' social and economic conditions in Bantaeng Regency. Therefore, through this research, the author seeks to provide an alternative strategy using geospatial information and the socio-economic conditions of coffee farmers in Bantaeng Regency.

Seeing the potential of coffee agribusiness in Bantaeng Regency (N. Juita., et al. 2021), agricultural planning is needed to support the development of coffee agribusiness in the region. Determining alternative strategies in this research uses SWOT analysis. SWOT analysis and Quantitative Strategic Planning Matrix (QSPM) several previous studies have used SWOT analysis in determining alternative strategies in agriculture and other fields. For example, Determining the best Strategy for developing organic agriculture: SWOT Fuzzy Analytical Network Process Approach (Agha Safari., et al. 2020), Sustainable ecotourism development using the SWOT and QSPM approaches: Study in Rameswaram, Tamil Nadu (Mallick., et al. 2020) Commercialization of bamboo wood in Nepal: SWOT-AHP analysis (Kafle., et al. 2023), Strategy to reduce greenhouse gas emissions from municipal waste management in Indonesia: The case of Semarang City (Budihardjo., et al. 2023). Through the research we conducted using data on the socio-economic conditions of

coffee farmers and geospatial data as well as SWOT and QSPM analysis, it is hoped that we can provide alternative strategies to support the development of coffee agribusiness in Bantaeng Regency.

This research aims to explore information related to the socio-economic conditions of coffee farmers and geospatial data on coffee plantation land in Pattaneteang Village, Bontolojong Village, and Pabumbungang Village, Bantaeng Regency. This research also aims to identify alternative strategies that can support the development of coffee agribusiness in the region. Apart from that, this research has several uses. First, it is an essential reference for academics and relevant literature for subsequent research, primarily related to the development of coffee agribusiness in Bantaeng Regency. Second, for the government, it is hoped that the results of this research will provide valuable insight into policy formulation and program planning related to the development of the agricultural sector, especially coffee agribusiness, in the Bantaeng Regency area. Finally, for the community, this research can serve as a tool to increase their understanding of the potential for developing coffee agribusiness in the local context.

2. METHODS

This research method involves several steps, which include sampling techniques, data types and acquisition, data collection techniques, and data analysis methods. Sampling was done using the proportionate stratified random sampling method with a total sample of 88 people divided proportionally into the three research villages. The types of data required include socio-economic data on coffee farmers and geospatial data on coffee plantation land in Bantaeng Regency. Data was obtained through literature reviews, surveys of 88 coffee farmers, downloading satellite imagery and base maps of research locations and geotagging with the help of the Avenza Maps application.

Data analysis in this research was carried out descriptively to provide a systematic picture of the socio-economic conditions of coffee farmers. In addition, coffee farming income was analyzed by calculating the difference between total costs and total revenues. Spatial analysis is also carried out using a Geographic Information System (GIS) through on-screen digitization, spatial and non-spatial data integration, land suitability analysis using the overlay method and arithmetic matching method based on predetermined land suitability criteria.

This analysis involves applying a SWOT matrix that combines internal and external factors and IFAS and EFAS matrices to dig deeper into internal and external factors by assigning weights and ratings. These steps produce a weighting score for each factor used in the IE matrix to identify the position and direction of business development. Finally, the Quantitative Strategy Planning Matrix (QSPM) method compares feasible alternative actions based on attractiveness scores and Total Attractive Score (TAS), allowing the selection of the best strategy for the venture.

3. RESULTS AND DISCUSSION

3.1 Social Conditions of Coffee Farmers in Bantaeng Regency

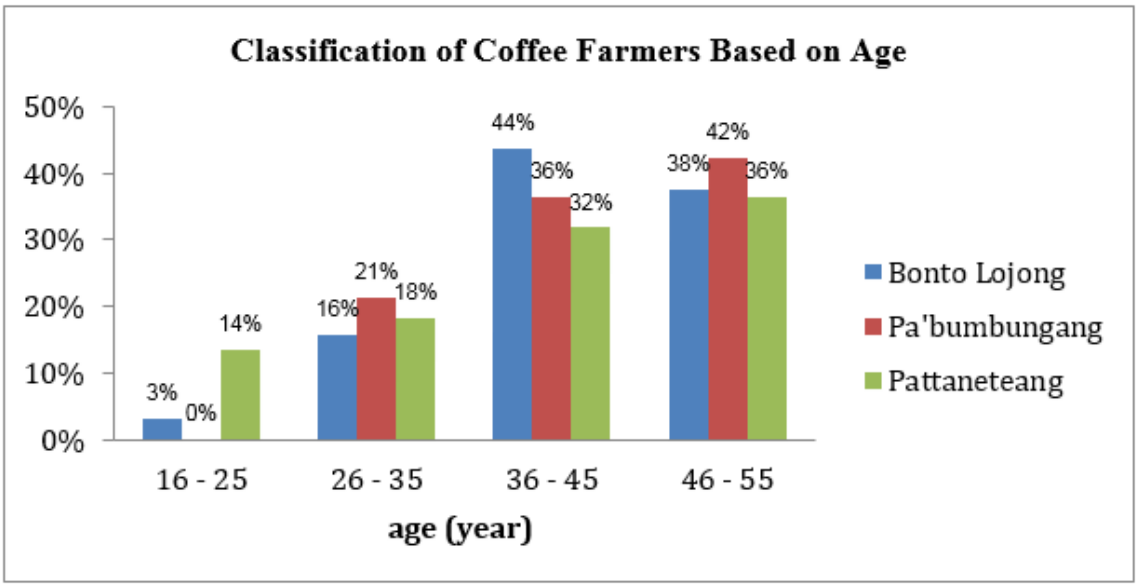


Figure 1: Classification of Coffee Farmers Based on Age

Figure 1 shows the percentage (%) of farmers by age at the research location. Based on the survey results, it is known that most farmers in Bonto Lojong village are aged 35-45 years, while in Pa'bumbungang and Pattaneteang villages, the majority are aged 46-55 years. In Figure 1 It can also be seen that, overall, coffee farmers (respondents) are in the productive age category, as in the productive age classification according to the Central Statistics Agency (BPS), which is between 15-65 years.

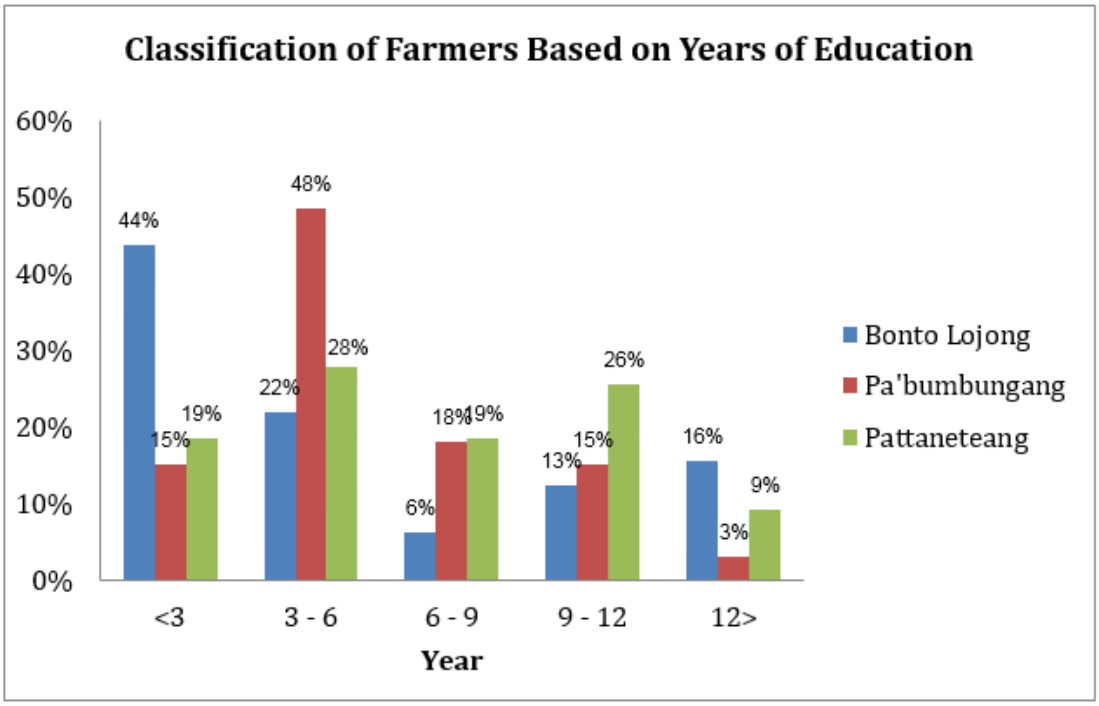


Figure 2: Classification of Farmers Based on Years of Education

In Figure 2, it can be seen that in Bonto Lojong Village, the majority of farmers have had less than three years of education, while in Pa'bumbungang and Pattaneteang Villages, the majority of coffee farmers have had between 3-6 years of education. From the figure 2 Overall, the farmers at the research location need a higher level of education. Only a small number of farmers have studied at a university. Education plays an essential role in individual earnings in agriculture and other occupations. In many countries, studies on education and income explore that, on average, highly educated people earn more than less educated people. This is because; educated individuals can perform more tasks and can quickly adopt new technologies and skills (Ashraf M., et al 2019).

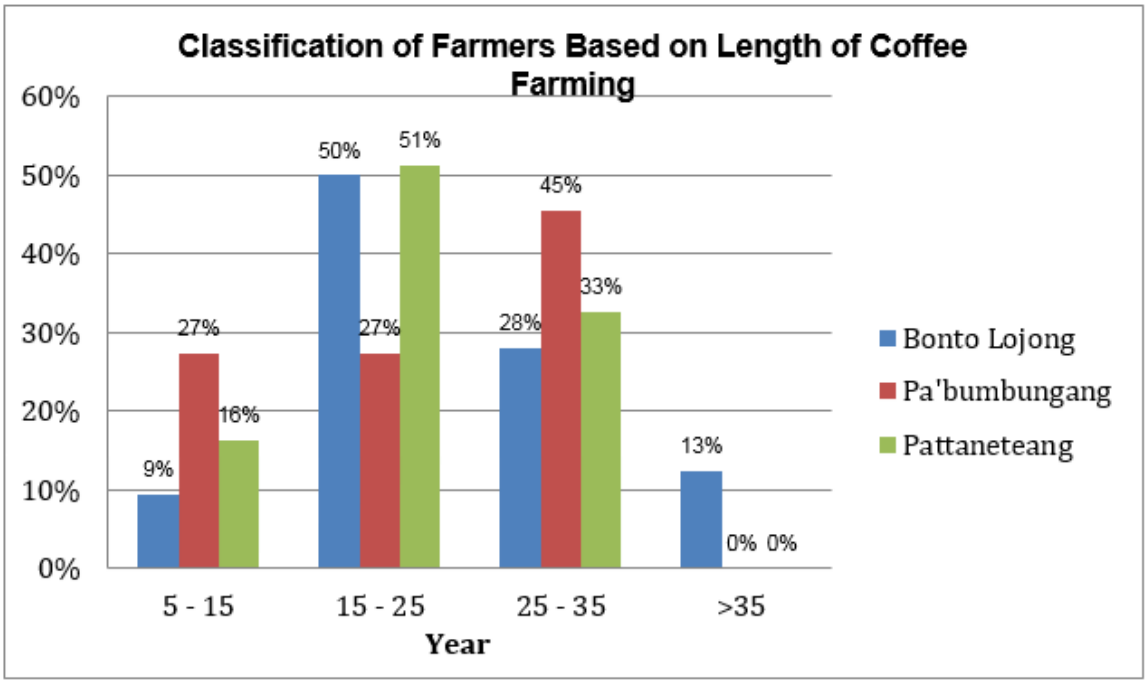


Figure 3: Classification of Farmers Based on Length of Coffee Farming

According to Soeharjo and Patong (1999), there are three categories of farming experience, namely less experienced (<5 years), quite experienced (5-10 years), and experienced (>10 years). In Figure 3 it can be seen that the majority of farmers in Bonto Lojong Village and Pattaneteang Village have been running farming for 15-25 years while in Plumbungan Village the majority of farmers have been running coffee farming for between 25-35 years, both coffee farmers in the Bontolojong village, Pa'bumbungan, and Pattaneteang tend to have experience in coffee farming, this is because coffee farming has been carried out from a young age and has been passed down from parents and continued from generation to generation.

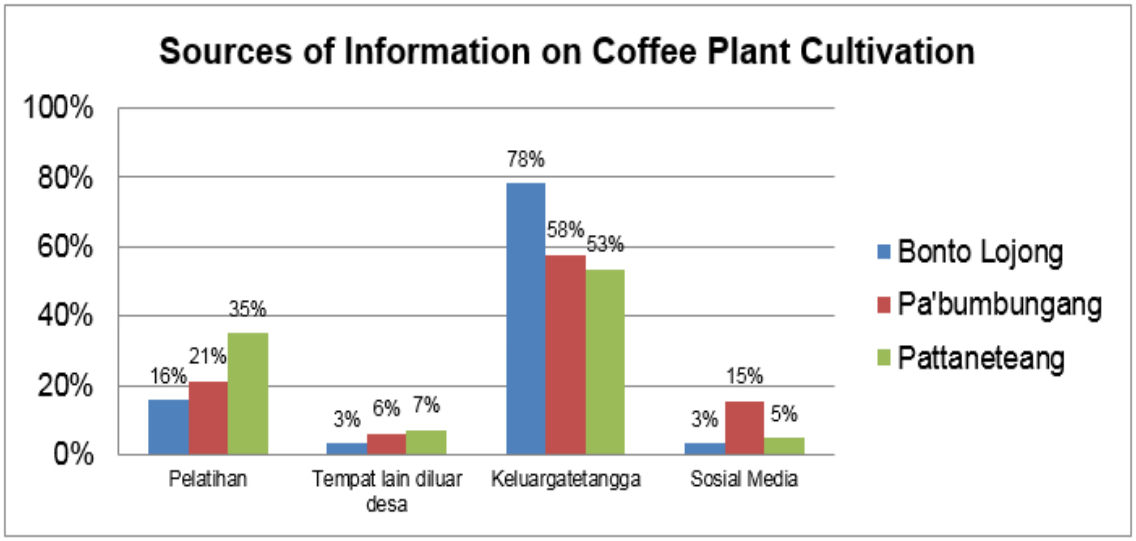


Figure 4: Sources of Information on Coffee Plant Cultivation

From the Figure... it can be seen that the majority of farmers in Bonto Lojong, Pa'bumbungang and Pattaneteang Villages obtained information about coffee cultivation from outside/neighbors, while only 16% of coffee farmers obtained information about coffee cultivation from training in Bonto Lojong Village, 21% in Pa'bumbungang Village and 35% in Pattaneteang Village.

Apart from information related to coffee cultivation, what farmers need is price information. Price is the amount of money charged for a product or service or the value consumers exchange for the benefits of owning or using the product or service (Kotler et al., 2008).

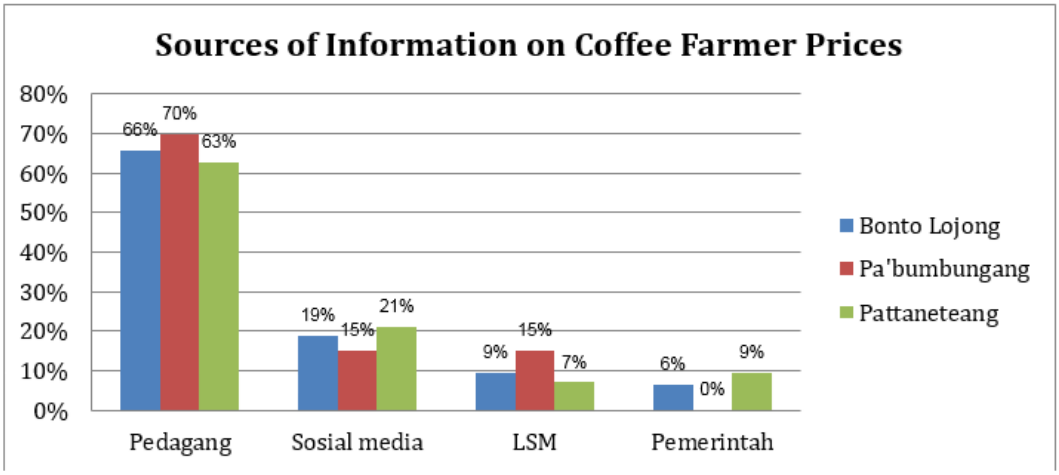


Figure 5: Sources of Information on Coffee Farmer Prices

In Figure 5 it can be seen that most farmers in the village Bontolojong, Pa'bumbungang and Pattaneteang Village obtain information regarding coffee prices through traders. This has the potential to cause losses for farmers because traders will dominate price determination, even though there is price bargaining in the buying and selling transaction process, in the end it is the collecting traders who determine the final price. This also makes the farmers' bargaining position very weak when compared to collecting traders. (Hepi Hapsari et al 2009).

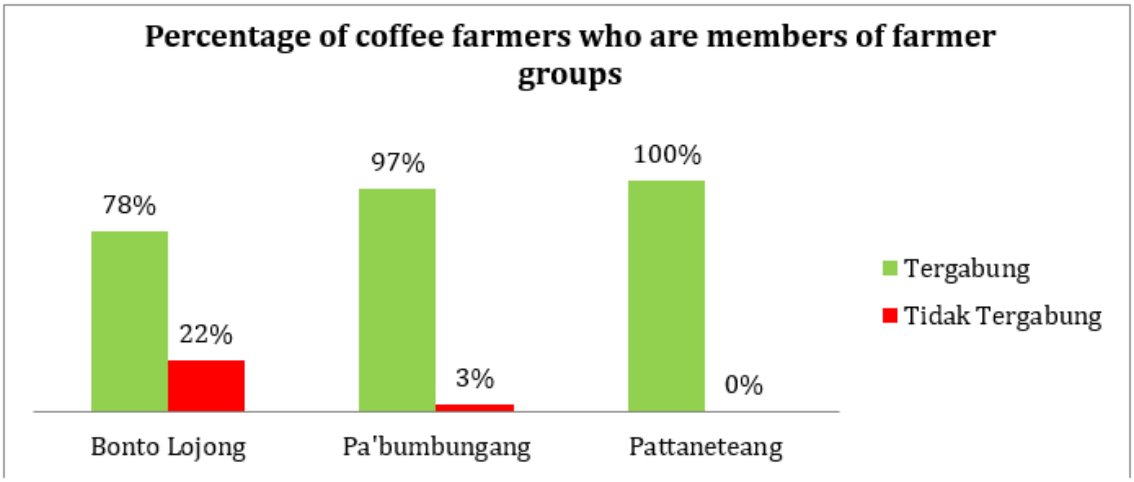


Figure 6: Percentage of Coffee Farmers who are Members of Farmer Groups

From Figure 6 it can be seen that the majority of farmers in Pattaneteang village, Pa'bumbangang, and Pattaneteang have joined farmer groups, there are only 22% of farmers in Bonto Lojong Village and 3% of farmers in Pa'bumbungang Village who are not members of farmer groups while all coffee farmers (respondents) in Pattaneteang Village have joined farmer groups.

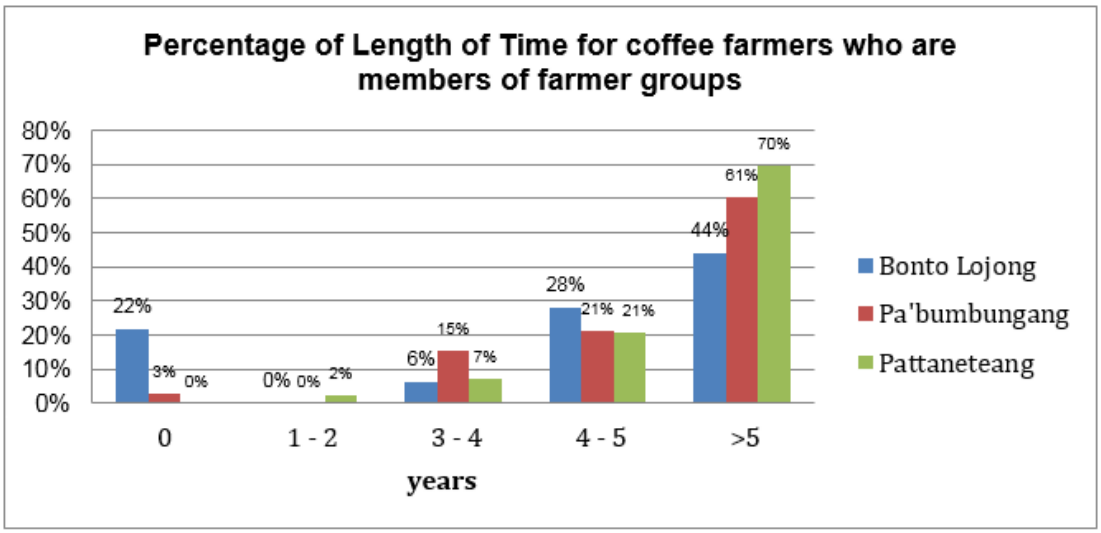


Figure 7: Percentage of Length of Time for Coffee Farmers who are Members of Farmer Groups

Figure 7 shows that most farmers at the research location have joined farmer groups for more than 5 years. However, even though many farmers have long been members of farmer groups, the impact of the presence of farmer groups as a medium for developing farmer capacity, especially for farmers in rural areas (Permentan No. 67 of 2016), has not given special attention to coffee farmers at the research location. Survey results show a low number of farmers who have taken part in training in both coffee cultivation and farming bookkeeping training. In Bonto Lojong Village, only 22% of farmers have participated in coffee cultivation training, while in Pa'bumbungang village, only 27% have participated in cultivation training. In coffee plants, in Pattaneteang village, 58% of farmers have taken part in coffee cultivation training, while the percentage of farmers who have taken part in farming bookkeeping training

is also deficient, the survey results show that in in Bontolojong There are only 16% of farmers who have taken part in farming bookkeeping training, in Pa'bumbungang and Pattaneteang Villages respectively only 3% and 12% of farmers have taken part in farm bookkeeping training (Appendix...). Research by Eka Mawarni et al (2017) found that the presence of farmer groups can play a good role in increasing farmers' income.

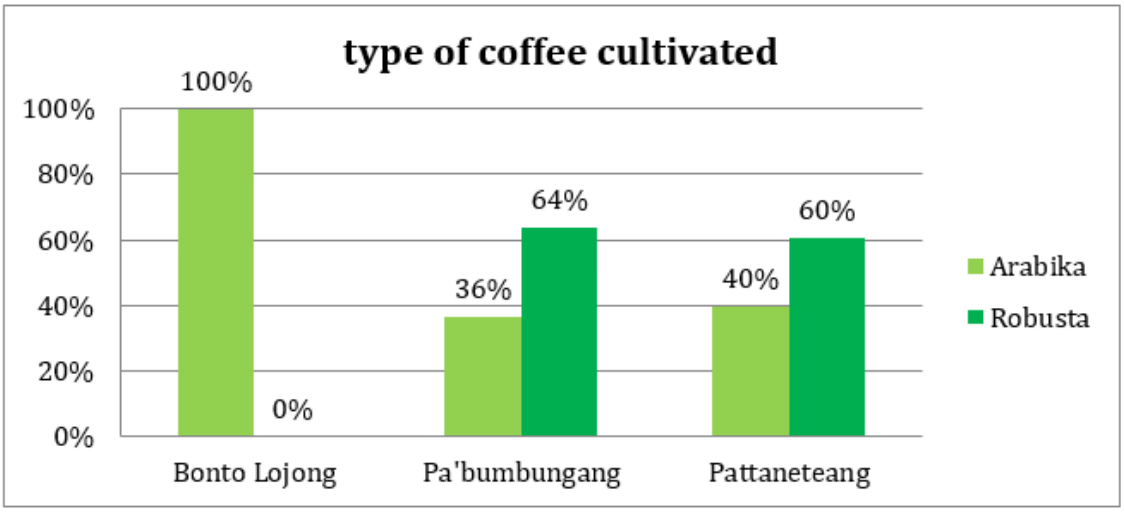


Figure 8: Percentage of Farmers by Type of Coffee Cultivated

In Figure 8, it can be seen that there are differences in the types of coffee cultivated by farmers in the research location; 100% of coffee farmers in Bonto Lojong Village cultivate Arabica coffee, while in Pa'bumbungang ,Village 64% of farmers cultivate Arabica coffee and 64% of farmers cultivate Arabica coffee. robusta coffee, while in Pattaneteang Village 40% of farmers cultivate robusta coffee and 60% of farmers cultivate arabica coffee. The differences in the types of coffee cultivated occur due to differences in geographical conditions at the research location (Regulation of the Minister of Agriculture of the Republic of Indonesia Number 49 of 2014).

3.2 Economic Conditions

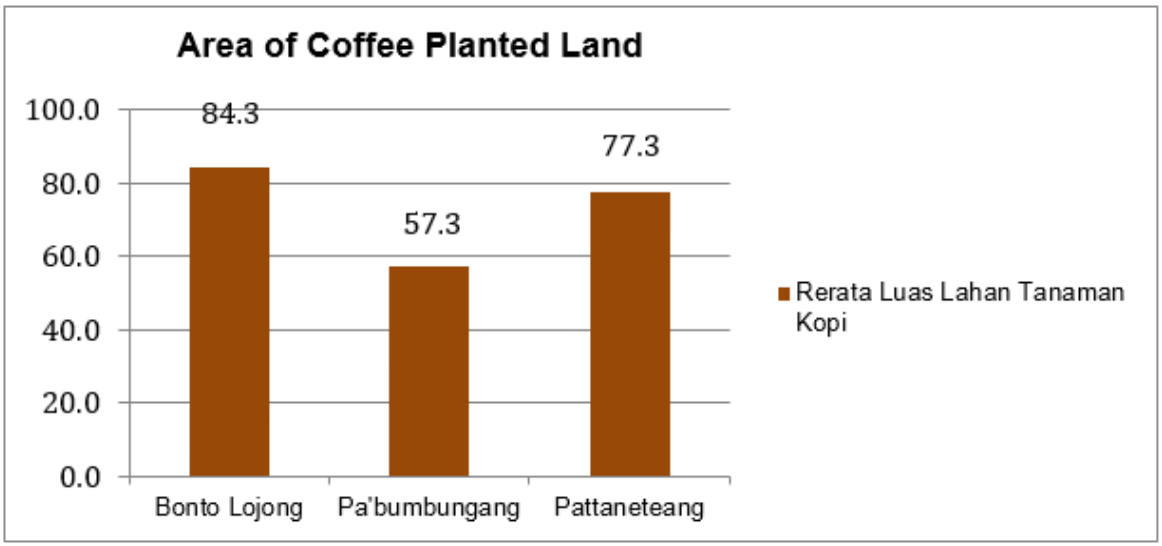


Figure 9: Area of Coffee Planted Land.

In Figure 9 it can be seen that the average land area owned by coffee farmers in the village vote Lojong is 84 acres, while in Pa'bumbumbungang Village the average coffee farmer has a coffee plantation area of 57.3 acres, while in Pattaneteang Village the average farmer has a coffee plantation area of 77.3 acres.

Waluwanja (2014) believes that the wider the land cultivated, the greater the production output, ultimately increasing the farmer's income. Conversely, the narrower the land control, the smaller the production will be, ultimately affecting the farmer's income. Therefore, one of the successes of farmers' income is inseparable from land control. Research conducted by Kumaladevi et al (2019) found that partial land area has a significant and positive effect on the income of coffee farmers.

The coffee plantation land used by farmers at this research location is land with land ownership status that is owned by the farmer himself and belongs to the family, so that coffee farmers can utilize their land optimally to obtain maximum income.

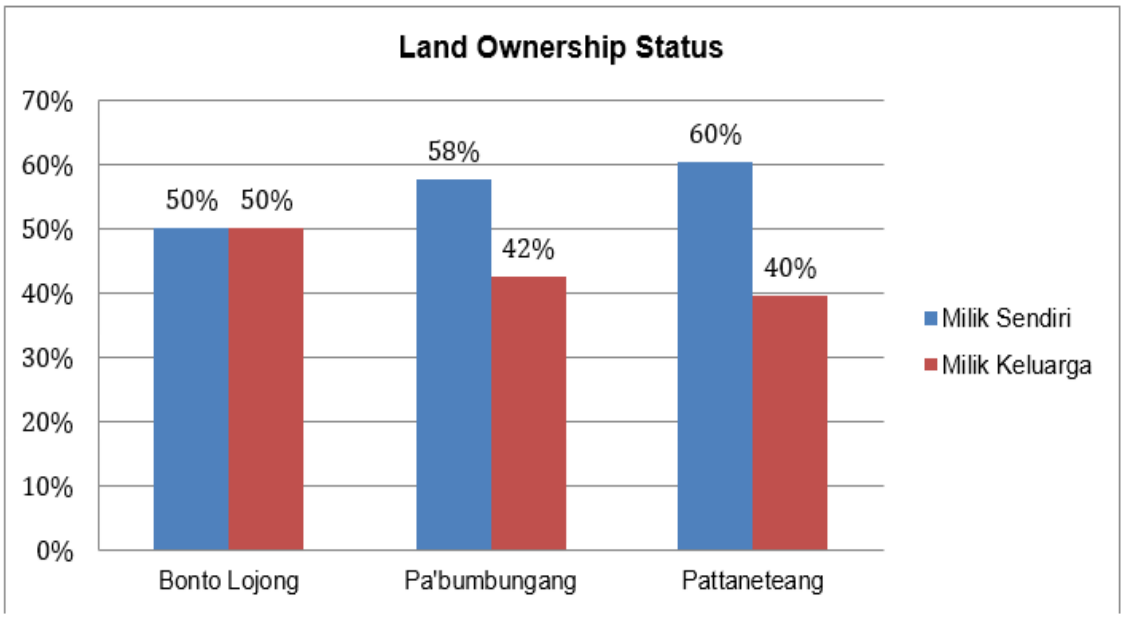


Figure 10: Percentage of Farmers by Land Ownership Status

Figure 10 shows that 50% of coffee farmers in Bonto Lojong village manage their own land in running coffee farming while the other 50% manage family-owned land, while in Pa'bumbungang Village there are 58% of coffee farmers who manage their own land and 42% of coffee farmers manage family owned land, while in Pattaneteang Village there are 60% farmers who process own land and 40% of farmers manage family land for coffee farming.

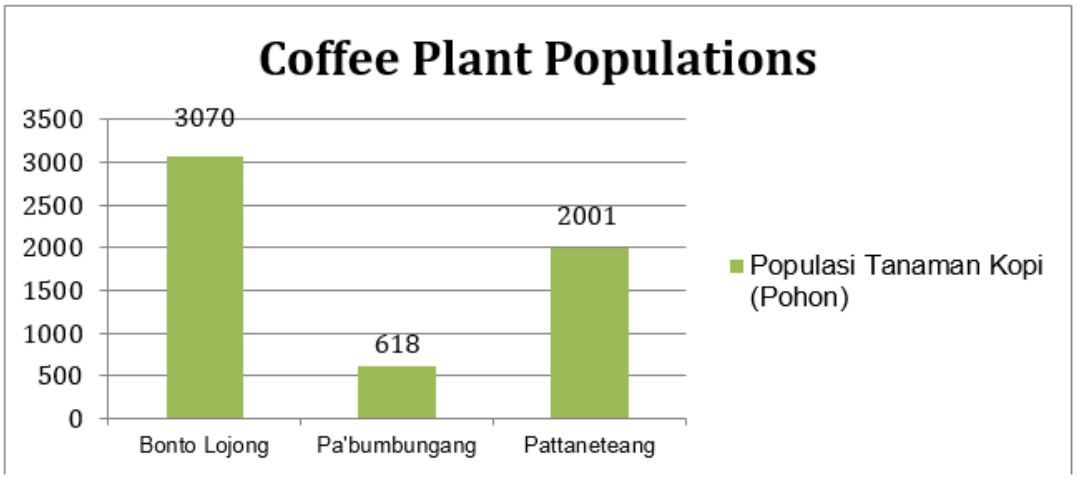


Figure 11: Number of Coffee Plant Populations

In Figure 11 it can be seen that the average coffee farmer in Bonto Lojong Village has 3070 coffee trees, while in Pa'bumbungang village the average coffee farmer has 618 coffee trees, while in Pattaneteang village the average farmer has 2001 coffee trees. Differences in farmers' coffee plant populations are caused by differences in land area (Figure 11).

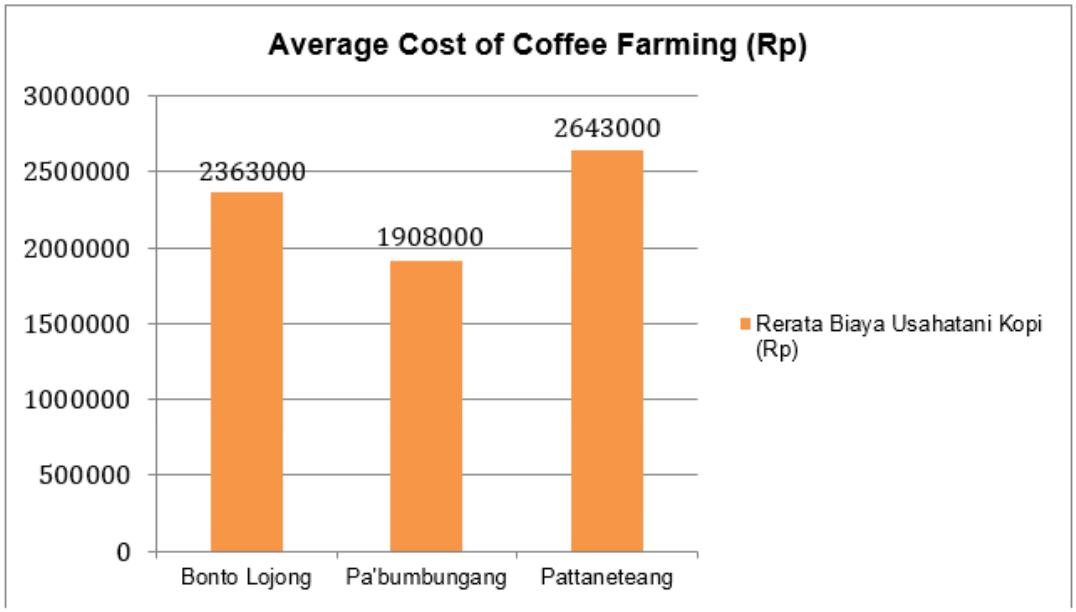


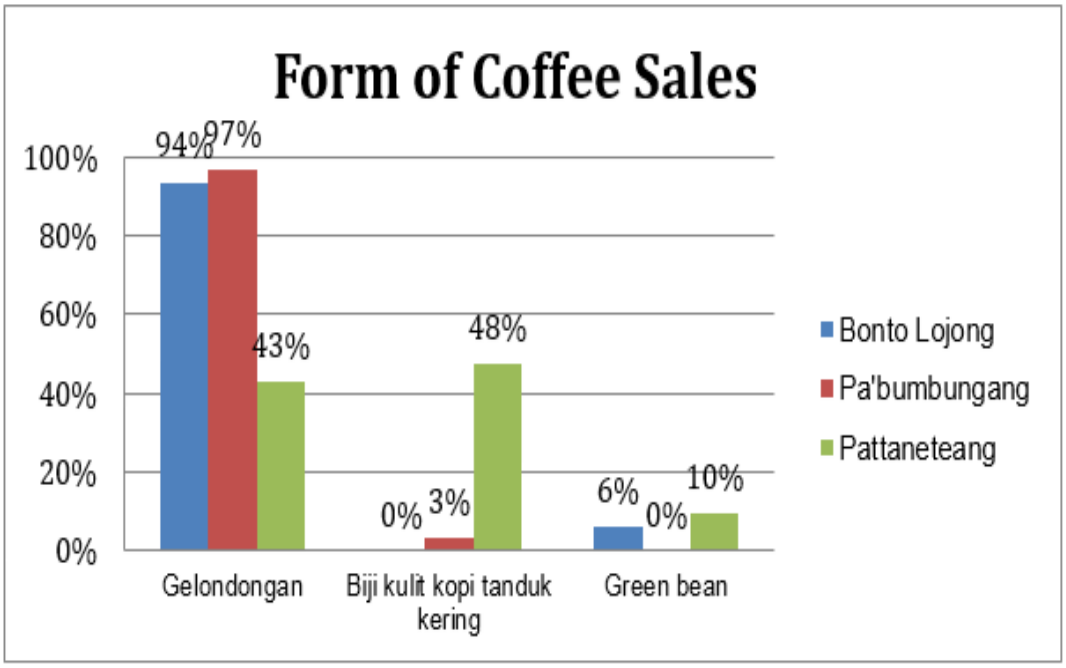
Figure 12: Costs of Coffee Farming

In Figure 12 it can be seen that the average farmer in Bonto Lojong Village spendscost production for coffee farming is Rp. 2,363,000, while coffee farmers in Pa'bumbungang Village incur farming costs of Rp. 1,908,000, while coffee farmers in Pattaneteang Village incur farming costs of Rp. 2,643,000. The costs incurred by coffee farmers at the research location are costs incurred for purchasing fertilizers, pesticides, labor wages and transporting the harvest as well as paying land and building taxes. Kumaladevi 2019 found that partial costs of production facilities have a significant and positive influence on the production and income of coffee farmers.

Table 1: Total Coffee Plant Production

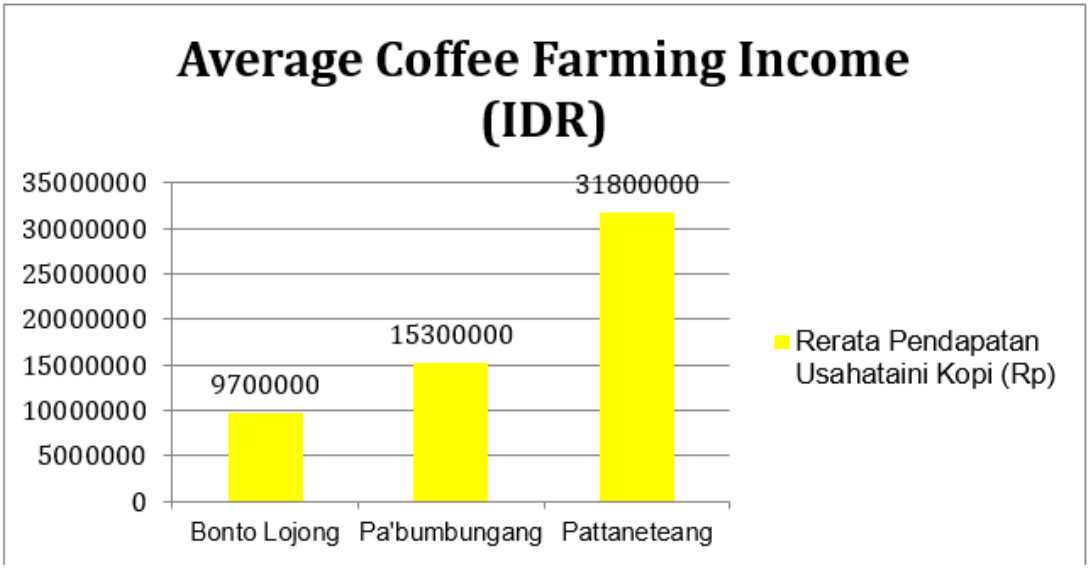
Village	Production (Kg)					
	Spindle		Dry Horn Skin		Green Bean	
	Arabica	Robusta	Arabica	Robusta	Arabica	Robusta
Bonto Lojong	20.082	0	0	0	1.467	0
Pa'bumbangang	10.606	13.235	500		0	0
Pattaneteang	3.294	6.823	8.607	3.953	0	1.283

In Table 1 it can be seen that there is the amount of coffee production produced by farmers based on the type of coffee cultivated and the post-harvest processing carried out by farmers, based on the results of surveys that have been carried out, the results of the amount of coffee production, both Arabica and Robusta, in the villages of Bonto Lojong and Pa'bumbungang Village has a greater production of coffee logs compared to production that has undergone post-harvest processing, in this case dry horn husk and green bean coffee, while in Pattaneteang Village Arabica coffee farmers produce more coffee in the form of dry horn husk compared to coffee logs andgreen bean, while robusta coffee farmers produce more log coffee than dry horn husk coffee and green bean coffee.



Picture 13: Forms of Farmer Coffee Sales in Bantaeng Regency

Figure 13 shows that the majority of farmers in Bonto Lojong Village and Pattaneteang Village sell their coffee in the form of logs, while in Pattaneteang Village the majority of farmers sell their coffee in the form of coffee beans with dry horn skin.



Picture 14: Farmers' Income coffee in Bantaeng Regency

Based on Figure 14, it can be seen that the average income of farmers from coffee farming in Bonto Lojong Village is IDR. 9,700,000 or around Rp. 808,000 per month, while the average income of farmers from coffee farming in Pa'bumbungang Village is Rp. 15,300,000 or Rp. 1,275,000 per month, while farmers in Pattaneteang Village earn income from coffee farming of Rp. 31,800,000 or Rp. 2,650,000 per month. From the survey data, it can be seen that farmers' income from coffee farming in Bonto Lojong and Pa'bumbungang villages is in the low category, namely less than Rp. 1500,000 per month (BPS, 2022) while farmers' income from coffee farming in Pattaneteang Village is included in the high category, namely between Rp. 2,500,000 – Rp. 3,500,000 per month (BPS, 2022).

The low income earned by farmers from coffee farming has encouraged farmers to run other farming businesses besides coffee farming as an effort to increase income. Rubina., et al (2018) revealed that crop diversification makes it possible for farmers to obtain increased income to meet other needs related to household welfare.

3.3 Identification of Existing Land Use in Bantaeng Regency

Table 2: Classification of Suitable Area for Coffee Planting Land in Bantaeng Regency

Village	Suitable Land Area (Ha)			
	Very suitable	Suitable enough	Marginal Appropriate	Inappropriate
Bonto Lojong	1609.64	430.44	46.18	143.83
Roofing	624.66	0.02	139.67	108.72
Pattaneteang	716.66	1.85	0	175.05
Total	2950.96	432.31	185.85	427.6

From the description in Table 2, it can be seen that cumulatively 43% of the land from the three villages that are research locations is land that is categorized as very suitable (S1), 6% is quite suitable (S2), 3% is marginally suitable (S3) and 6% is categorized as unsuitable land category (N).

Table 3: Area of Suitable Land in Bantaeng Regency

Village	Suitable Area of Robusta Land (Ha)			
	Very suitable	Suitable enough	Marginal Appropriate	Inappropriate
Bonto Lojong	53.96	0	44.22	2131.92
Roofing	62.09	9.35	159.82	641.79
Pattaneteang	54.17	0	13.28	826.12
Total	170.22	9.35	217.32	3599.83

From the description in Table 3, it can be seen that cumulatively 2% of the land from the three villages that are research locations is land that is categorized as very suitable (S1), 0% is quite suitable (S2), 3% is marginally suitable (S3) and 53% is categorized as unsuitable land category (N).

Internal / **External**	**Strength (S)** 1. The majority of farmers are of the productive age category. 2. The majority of farmers are experienced in coffee farming. 3. Availability of S1 and S2 class land Enough area for cultivating coffee plants. 1. 4. Availability of workers for coffee farming.	**Weakness (W)** 1. The majority of farmers have low education. 2. Access to information regarding coffee cultivation and prices is still limited 3. The minimal role of farmer groups as a medium for developing farmer capacity 1. 4. Minimal post-harvest processing of coffee.
Chance (O) 1 Bantaeng Regency has geographical indications of coffee commodities 2 There is government support in developing coffee commodities 3 Geographical conditions support the cultivation of coffee plants 4 The trend of coffee consumption continues to increase	**Strategy S-O** 1. Increase the quantity of coffee production (S1, S2, S3, O1, O2, O3). 2. Optimizing land use for coffee plants (S3, O3).	**W-O strategy** 1. Optimizing the role of farmer groups as a learning forum for farmers (O2, W3). 2. Coordination between stakeholders in providing information to farmers (W1, W2, O2).
Threat (T) 1. There are many competitors for coffee products 2. The availability of quality coffee seeds is still limited 3. Less stable climate change 4. Pest and disease attacks	**Strategy S-T** 1. Diversification of coffee-based processed products (S4, T1). 2. Socialization of the use of shade plants (S1, T3, T4).	**W-T strategy** 1. Procurement of quality coffee seeds to support coffee production (W3, T2). 2. Improving the quality of coffee production through proper post-harvest processing (W4, T1).

3.4 SWOT Analysis of Coffee Agribusiness Development in Bantaeng Regency

The SWOT matrix in this research aims to describe the internal and external factors faced in developing coffee agribusiness in Bantaeng district. Based on the study results, with the support of primary and secondary data, internal and external factors and strategies can be used to develop agribusiness. Coffee in Bantaeng Regency as. They are increasing the Quantity of Coffee Production. This strategy is chosen based on the strength of resources. The natural and human resources in Bantaeng Regency support enhancing production quantity. This is what makes this strategy considered appropriate to support the development of coffee agribusiness in Bantaeng Regency. Optimizing land use for coffee plants. The results of the analysis of land suitability for

coffee plants in Bantaeng Regency are extensive, namely around 2960.86 ha, including a class that is very suitable for developing Arabica coffee plants. If managed optimally, the availability of suitable and large enough land and geographical conditions can support increased coffee production. It was optimizing the role of farmer groups as a learning forum for farmers. This strategy was chosen based on survey results, which showed many farmers joining farmer groups. Utilizing farmer groups as a learning platform will increase farmers' knowledge and abilities in coffee farming management. Coordination between stakeholders in providing information to farmers. This strategy reviews survey results, which show that access to information regarding coffee cultivation and commodity prices is minimal, so coordination between stakeholders is needed to provide information to support the development of coffee agribusiness in Bantaeng Regency. Diversification of coffee-based processed products. This strategy was chosen based on survey results showing a need for more diversification in processed coffee products and the large number of competitors from other regions who produce processed coffee. Therefore, it is necessary to diversify processed coffee products to increase the competitiveness of processed coffee products in Bantaeng Regency and increase coffee farmers' income in Bantaeng Regency.

Table 4: IFAS Matrix for Coffee Agribusiness in Bantaeng Regency

Internal Strategy Factors				
Strength		**Weight**	**Rating**	**Score**
1	The majority of farmers are of the productive age category.	0.114	3.000	0.343
2	The majority of farmers are experienced in coffee farming.	0.114	2.600	0.297
3	Availability of S1 and S2 class land Large enough for cultivating coffee plants.	0.129	2.200	0.284
4	Availability of coffee farming workers.	0.140	2.400	0.337
	Total Strength Factor			**1.261**
Weakness				
1	The majority of farmers have low education.	0.100	2.800	0.279
2	Access information related to cultivation and coffee prices are still limited	0.125	2.800	0.351
3	The minimal role of farmer groups as media developing farmer capacity	0.133	2.800	0.372
4	Minimal Post-Harvest Processing of Coffee.	0.144	3.800	0.547
Total Weakness Factor				**1.549**
Total Internal Factor Value				**2.810**

The results of the External Strategic Factor Analysis Summary (EFAS) calculation on coffee agribusiness in Bantaeng Regency are as follows:

Table 5: EFAS Matrix for coffee agribusiness in Bantaeng Regency

External Strategy Factors				
Chances:		**Weight**	**Rating**	**Score**
1.	Bantaeng Regency has geographical indication of coffee commodities	0.128	3.800	0.485
2.	There is government support in development of coffee commodities	0.128	3.400	0.434
3.	Geographical conditions are favorable for coffee cultivation	0.131	3.800	0.496
4.	The trend of coffee consumption continues to increase	0.134	3.400	0.454
Total Chance Factor				**1.869**
Threat:				
1.	Many competitors for coffee products	0.107	3.400	0.363
2.	The availability of quality coffee seeds is still limited	0.128	3.600	0.459

3.	Less stable climate change	0.131	3.800	0.496
4.	Pest and disease attacks	0.116	3.400	0.393
Total Threat Factors				**1.712**
Total Value of External Factors				**3.581**

Based on the analysis results in table 5, it is known that the value of factor external both opportunities and threats are higher compared to with value factor internal strengths and weaknesses. From the results of the EFAS analysis, it is known that the opportunity factor value is 1.869 and the value factor threat of 1,712 with total value factor external amounting to 3,581.

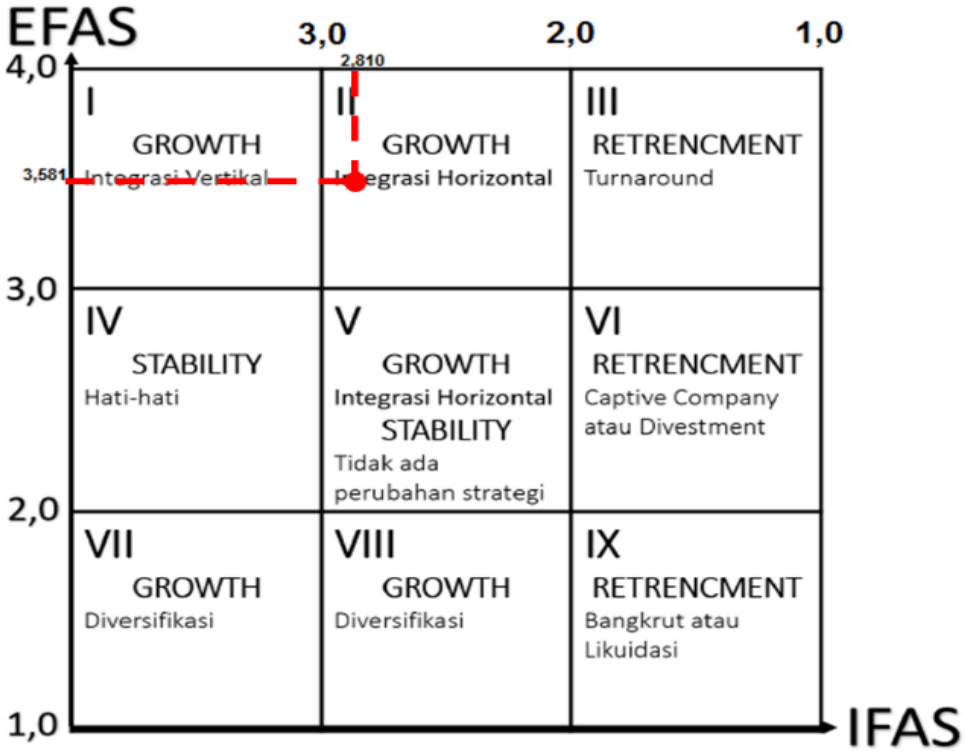


Figure 15: IE matrix for Coffee Agribusiness in Bantaeng Regency

Based on the IFAS and EFAS calculation results which show the value factor internally and externally of coffee agribusiness in Bantaeng Regency, it is known that the appropriate strategy for developing coffee agribusiness in Bantaeng Regency is in quadrant II, namely using a growth strategy (growth) in the form of a horizontal integration strategy. Horizontal integration strategy is a strategy carried out by a farm to increase the quantity and quality of a farm's production (Ardito, et al 2019, Octaviana.,et al2017). Based on the results of the internal external matrix analysis of agribusiness in Bantaeng Regency, it is necessary to increase the quantity of coffee production which can be done by utilizing the strengths they have, namely: (1) the majority of coffee farmers are in the productive age category; (2) the majority of farmers are experienced in coffee farming; and (3) availability of land in categories S1 and S2 which is suitable for cultivating coffee plants. Apart from that, horizontal integration that can be carried out as an effort to develop coffee agribusiness in Bantaeng Regency is by improving the quality of production through handling post-harvest by utilizing the availability of labor for coffee farming.

Table 6: QSPM Matrix for Agribusiness Development in Bantaeng Regency

Internal and External Strategy Factors		Weight	Alternative Strategies															
			Increase the quantity of coffee production		Optimizing land use for coffee plants		Optimizing the role of farmer groups as a learning forum for farmers		Coordination between stakeholders in providing information to farmers		Socialization of the use of shade plants as an effort to overcome climate change		Diversification of coffee-based processed products		Procurement of quality coffee seeds to support coffee production		Improving the quality of coffee production through proper post-harvest processing	
			AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS
A.	Strength																	
1.	The majority of farmers are of the productive age category.	0.114	3.600	0.412	2.400	0.275	3.000	0.343	2.600	0.297	3.000	0.343	3.600	0.412	2.200	0.252	3.800	0.435
2.	The majority of farmers are experienced in coffee farming.	0.114	3.400	0.389	3.200	0.366	2.800	0.320	3.000	0.343	2.800	0.320	3.400	0.389	2.800	0.320	4.000	0.458
3.	The availability of S1 and S2 class land is quite large for cultivating coffee plants.	0.129	3.800	0.491	3.600	0.465	2.200	0.284	1.200	0.155	1.800	0.232	2.800	0.362	2.000	0.258	3.200	0.413
4.	Availability of coffee farming workers.	0.140	3.800	0.533	2.200	0.308	2.200	0.308	2.000	0.280	1.200	0.168	3.200	0.449	1.600	0.224	3.600	0.505
B.	Weakness																	

Internal and External Strategy Factors		Weight	Alternative Strategies															
			Increase the quantity of coffee production		Optimizing land use for coffee plants		Optimizing the role of farmer groups as a learning forum for farmers		Coordination between stakeholders in providing information to farmers		Socialization of the use of shade plants as an effort to overcome climate change		Diversification of coffee-based processed products		Procurement of quality coffee seeds to support coffee production		Improving the quality of coffee production through proper post-harvest processing	
			AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS
1.	The majority of farmers have low education.	0.100	2.000	0.199	2.000	0.199	3.600	0.359	2.600	0.259	2.200	0.219	2.600	0.259	1.600	0.159	2.200	0.219
2.	Access to information regarding coffee cultivation and prices is still limited	0.125	2.200	0.276	1.600	0.201	2.000	0.251	4.000	0.502	2.600	0.326	2.800	0.351	2.000	0.251	2.400	0.301
3.	The minimal role of farmer groups as a medium for developing farmer capacity	0.133	1.600	0.213	1.600	0.213	3.000	0.399	2.600	0.345	3.200	0.425	1.800	0.239	2.000	0.266	1.400	0.186
4.	Minimal Post-Harvest Processing of Coffee.	0.144	2.400	0.345	1.800	0.259	3.200	0.461	2.800	0.403	2.000	0.288	2.400	0.345	3.000	0.432	2.400	0.345
A.	Opportunity																	
1.	Bantaeng Regency	0.128	3.000	0.383	3.000	0.383	1.800	0.230	2.800	0.357	2.200	0.281	2.200	0.281	2.600	0.332	2.400	0.306

Internal and External Strategy Factors		Weight	Alternative Strategies															
			Increase the quantity of coffee production		Optimizing land use for coffee plants		Optimizing the role of farmer groups as a learning forum for farmers		Coordination between stakeholders in providing information to farmers		Socialization of the use of shade plants as an effort to overcome climate change		Diversification of coffee-based processed products		Procurement of quality coffee seeds to support coffee production		Improving the quality of coffee production through proper post-harvest processing	
			AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS
	has geographical indications of coffee commodities																	
2.	There is government support in developing coffee commodities	0.128	3.400	0.434	3.000	0.383	3.000	0.383	2.400	0.306	2.800	0.357	2.400	0.306	2.800	0.357	3.000	0.383
3.	Geographical conditions support the cultivation of coffee plants	0.131	3.200	0.418	3.200	0.418	2.600	0.339	2.400	0.313	2.200	0.287	2.600	0.339	3.000	0.392	3.400	0.444
4.	The trend of coffee consumption continues to increase	0.134	3.800	0.507	3.400	0.454	2.600	0.347	2.400	0.320	1.600	0.214	2.400	0.320	2.000	0.267	3.600	0.481
B.	Threat																	
1.	Many competitors for coffee products	0.107	2.200	0.235	1.800	0.192	1.600	0.171	2.600	0.278	1.600	0.171	2.600	0.278	2.800	0.299	3.000	0.320

Internal and External Strategy Factors		Weight	Alternative Strategies															
			Increase the quantity of coffee production		Optimizing land use for coffee plants		Optimizing the role of farmer groups as a learning forum for farmers		Coordination between stakeholders in providing information to farmers		Socialization of the use of shade plants as an effort to overcome climate change		Diversification of coffee-based processed products		Procurement of quality coffee seeds to support coffee production		Improving the quality of coffee production through proper post-harvest processing	
			AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS
2.	The availability of quality coffee seeds is still limited	0.128	2.800	0.357	2.200	0.281	2.800	0.357	3.600	0.459	2.200	0.281	3.000	0.383	3.200	0.408	2.800	0.357
3.	Less stable climate change	0.131	1.600	0.209	2.000	0.261	2.800	0.366	2.200	0.287	2.800	0.366	2.600	0.339	1.800	0.235	2.400	0.313
4.	Pest and Disease Attacks	0.116	2.000	0.231	2.600	0.301	3.600	0.417	3.600	0.417	2.600	0.301	3.000	0.347	3.000	0.347	2.200	0.255
	Total value			**5.632**		**4.958**		**5.334**		**5.324**		**4.579**		**5.400**		**4.800**		**5.721**

The Attractiveness Scores (AS) value is the attractiveness value of alternative strategies in dealing with existing strategic factors. This AS value can be seen from the magnitude of the influence of alternative strategies on strategic factors on coffee agribusiness conditions in Bantaeng Regency. Interest in using the strategy will also be vital if it has a strong enough influence. Therefore, respondents provided an assessment formulated to have an influence and play a role in exploiting strengths and opportunities and facing weaknesses and threats to coffee agribusiness in Bantaeng Regency.

Based on the description in Table .., the results of the QSPM analysis obtained the highest Total Attractive Scores (TAS) value for the strategy to improve the quality of production results with a value of 5.721, while the strategy to increase the quality of coffee production had mark second highest with a total of 5,632. The results of strategy selection using the QSPM matrix are the same as the results of strategy selection produced in research results using the IFAS (Table...) and EFAS (Table...) matrices as well as the IE matrix (Figure...), which shows the need for horizontal integration in this case increasing production quantity through utilization existing strengths and increasing production quality with appropriate post-harvest management.

This strategy was formulated based on a SWOT analysis which showed weaknesses in the post-harvest process, which was supported by survey results which showed low coffee production results when compared to the area of coffee plantation land owned by farmers and the large number of farmers who sold their production in logs, especially in Bonto village. Lojong and Pabumbungang Village. Apart from that, the results of the analysis of both the IE and QSPM matrices also show the need to increase the quantity of coffee production in the Bantaeng district by taking advantage of the strengths they have in the form of the majority of coffee farmers who are in the productive age category and taking advantage of the availability of large enough undergraduate and postgraduate land for cultivating coffee plants. As well as opportunities in the form of high consumption trends and market demand for coffee commodities.

4. CONCLUSION

Coffee agribusiness is a potential sector owned by Bantaeng Regency. Combining strengths, weaknesses, opportunities and threats using the SWOT matrix provides an overview of strategies that can be used to develop coffee agribusiness in Bantaeng district. The results of the Swot, IFAS, EFAS, IE and QSPM methods show that increasing production quantity (SO1) and increasing production quality (WT2) are 2 appropriate strategy recommendations for developing coffee agribusiness in Bantaeng Regency. This means that utilizing strengths and opportunities to increase coffee production and strategies to minimize weaknesses and threats by improving production quality through appropriate post-harvest handling (WT2) is essential in efforts to develop coffee agribusiness in Bantaeng district.

References

1) Berliana Anggun Septiani dan Istiarsi Saptuti Sri Kawuryan., 2021.Analisis Penyebab Turunnya Produksi Kopi Robusta Kabupaten Temanggung. Ekuitas: Jurnal Ekonomi dan Keuangan, 05 (03), 365-388. doi: 10.24034/j25485024.y2021.v5.i3.4612.

2) C Lopulisa, R neswati dan M Norsyam., 2020. Land Suitability Index to Estimate the Land Potential for Arabica Coffee Plantation: A Case of Tompobulu District, Bantaeng Regency. IOP Conference Series: Earth and Environmental Science. Universitas Hasanuddin, Makassar. Hal. 1-7.

3) Dudi Septiadi, Lalu Sukardi, Pande Komang Suparyana., 2022. Pengaruh Faktor Sosial Ekonomi Terhadap Pendapatan Petani Tembakau (Studi Kasus Di Kecamatan Suralaga Kabupaten Lombok Timur). Jurnal Agrotek UMMAT. 9 (2), 117-130.

4) Hanane Aghasafari, Alireza KarbasiA, Hosein Mohammadi, Roberto Calisti., 2020. Determination of the best strategies for development of organicfarming: A SWOT e Fuzzy Analytic Network Process approach, 1-12, 277.doi:https://doi.org/10.1016/j.jclepro.2020.124039

5) Isnam Junais Samsuar Samsuar, Daniel Useng, Hikmah M. Ali dan Asriyanti Syarif., 2019. Integration of Socio-Spatial Approach in Land Use Planning for Agribusiness Commodities: A Case Study of Underdeveloped Districts in South Sulawesi, Indonesia, Indonesia.Open Journal of Social Sciences, 07, 147-159. doi: 10.4236/jss.2019.71013.

6) Joris Pangi, Jouke J. Lasut dan Cornelius J. Paat., 2020. Kehidupan Sosial Ekonomi Petani Di Desa Maliku Satu Kecamatan Amurang Timur Kabupaten Minahasa Selatan. Jurnal Holistik, 13 (1), 1-20.

7) La Nur Muhammad Iskandar Patola *et al,* 2018. Kondisi Sosial Ekonomi Masyarakat Petani Desa Lapangisi Kecamatan Mowewe Kabupaten Kolaka Timur.Jurnal Penelitian Pendidikan Geografi, 03 (02) 226-241. doi: 10.36709/jppg.v3i2.9167.

8) Li Ma, Hualou Long , Lisha Tang, Shuangshuang Tu, Yingnan Zhang dan Yi Qu., 2021. Analysis of the Spatial Variations of Determinants of Agricultural Production Efficiency in China. Computers and Electronics in Agriculture, 180, 2-13. doi: 10.1016/j.compag.2020.105890.

9) Muhammad Haryoko, Karno dan Agus Setiadi*.,* 2018. Analisis Faktor Yang Mempengaruhi Produksi Kopi Robusta Di Kabupaten Temanggung (Studi Kasus Di Kecamatan Pringsurat). Jurnal Agromedia, 36 (02), 46-54.

10) Marandita Ayun Kumaladevi dan Lasmono Tri Sunaryanto., 2019. Pengaruh Karakteristik Sosial Ekonomi Terhadap Pendapatan Petani Kopi Di Desa Bageng Kecamatan Gembong Kabupaten Pati. Jurnal Agrinesia. 04 (01), 56-64.

11) Mochammad Farid Afandi, Siti Komariyah, Bayu Aprillianto, Dien Vidia Rosa., 2021. Social Relations between Markets and Farmers: A Sustainable Development Model for Coffee Commodities. International Conference on Management, Business, and Technology. Atlantis Press International. Prancis. Hal. 180-185.

12) Ni Luh Putu Ayu Diah Permatasari, Made Kembar Sri Budhi dan Ni Nyoman Yuliarmi., 2018. Analisis Faktor – faktor yang Mempengaruhi Pendapatan Petani Kopi Robusta di Kecamatan Pupuan Kabupaten Tabanan. E Journal EP Unud, 07 (12), 2668-2697.

13) Nurlaila Hanun dan Safuridar. 2018. Analisis Kondisi Sosial Ekonomi Keluarga terhadap Kesejahteraan Keluarga di Gampong Karang Anyar Kota Langsa.Jurnal Samudra Ekonomi Dan Bisnis, 09 (01).doi: 10.33059/jseb.v9i1.460

14) Ovy Frenzy Tarigan, Fahmi Wiryamarta Kifli, Agatha Ayiek Sih Sayekti. 2021., Kondisi Sosial Ekonomi Petani Kopi Di Desa Gamber Kecamatan Simpang Empat Kabupaten Karo Sumatera Utara. Journal Agrifitia, 01 (02), 149-158 https://doi.org/10.55180/aft.v1i2.117.

15) Pandu Laksono, Irham, Jangkung Handoyo Mulyo, Any Suryantini. 2022. Farmers' Willingness to Adopt Geographical Indication Practice in Indonesia: A Psycho Behavioral Analysis. Heliyon. 8, 1-13. Doi: https://doi.org/10.1016/j.heliyon.2022.e10178

16) Saraswati, Dewi Hastuti, Shofia Nur Awami, Lutfi Aris Sasongko., 2021. Analisis Pendapatan Dan Pengaruh Karakteristik Sosial Ekonomi Terhadap Pendapatan Petani Buncis (Phaseolus Vulgaris L). Jurnal Penelitian Agrisamudra 8 (1), 18-29. DOI: 10.33059/jpas.v8i1.3674.

17) Soekartawi, Soeharjo A, Dillon JL, Hardaker JB. 1986. *Ilmu Usahatani dan Penelitian untuk Pengembangan Petani Kecil*. UI-Press. Jakarta.

18) Syahruni Thamrin, Junaedi, M.Kadir dan Laylatul Aulia., 2021. *Faktor-Faktor Yang Mempengaruhi Produksi Kopi Arabika Di Kabupaten Bantaeng.* Prosiding 33th Politeknik Pertanian Negeri Pangkajene Kepulauan 28 oktober 2021, Pangkep, Indonesia.Politeknik Pertanian Negeri Pangkajene Kepulauan.

19) Suraj Kumar Mallick, Somnath Rudra, Riya Samanta.,2020.Sustainable ecotourism development using SWOT and QSPMapproach: A study on Rameswaram, Tamil Nadu.International Journal of Geoheritage and Parks, 08, 185–193. doi:https://doi.org/10.1016/j.ijgeop.2020.06.001.

20) Ulidesi Siadari, Jamhari, dan Masyhuri., 2020. Strategi Pengembangan Agribisnis Kopi Arabika di Kabupaten Simalungun. Jurnal Kawistara, 01, (10) 32-49. doi: 10.22146/kawistara.41703.