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Agroindustry Development Strategy for Capture Fisheries Rokan Hilir District

Strategi Pengembangan Agroindustri Perikanan Laut di Kabupaten Rokan Hilir

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Abstract

The fisheries sector has a very important role for the people in Rokan Hilir Regency in driving their economy. Therefore, the fishery potential that is owned must be utilized as much as possible for the welfare of the community. This research was conducted in March 2022. The method used is the survey method. This study aims to analyze the superior marine fishery agroindustry products in Rokan Hilir Regency and determine the internal and external factors of the marine capture fisheries agroindustry as well as alternative strategies for developing marine capture fisheries agroindustry in Rokan Hilir District. The results of the AHP analysis showed that the results of the weighting and scoring of several types of commodities and post-harvest technology used were known that the superior marine fishery agroindustry products in Rokan Hilir Regency were processed products derived from shrimp raw materials. While the results of the SWOT analysis concluded that the position of the marine fisheries agroindustry in Rokan Hilir Regency based on the IE matrix was in cell V of growth and stability, which means that the position of the marine fisheries agroindustry was in a balanced position. Alternative strategies that can be applied are utilizing the availability of fish raw materials from nature, increasing support and attention to marine fisheries agroindustry businesses, improving & maintaining the quality of marine fisheries agroindustry products, proposing related training on financial managerial capabilities, establishing fisheries institutions/cooperatives marketing fisheries agroindustrial products sea, increasing more intensive training in pest and disease management, establishing partnerships with collectors/agents/traders so that production results are guaranteed price levels in marketing, establishing modern processing sites based on raw material handling so that the availability of raw materials can be stocked or stored to minimize costs production.

Keywords: AHP, SWOT, Fishery Agroindustry, Development Strategy, Rokan Hilir Regency

Abstrak

Sektor perikanan memiliki peran yang sangat penting bagi masyarakat di Kabupaten Rokan Hilir dalam menggerakkan perekonomiannya. Oleh karena itu, potensi perikanan yang dimiliki harus dimanfaatkan sebesar-besarnya untuk kesejahteraan masyarakat. Penelitian ini dilakukan pada bulan Maret 2022. Metode yang digunakan adalah metode survei. Penelitian ini bertujuan untuk menganalisis produk agroindustri perikanan laut unggulan di Kabupaten Rokan Hilir dan mengetahui faktor internal dan eksternal agroindustri perikanan tangkap laut serta alternatif strategi pengembangan agroindustri perikanan tangkap laut di Kabupaten Rokan Hilir. Hasil analisis AHP menunjukkan bahwa hasil pembobotan dan skoring beberapa jenis komoditas dan teknologi pasca panen

yang digunakan diketahui bahwa produk unggulan agroindustri perikanan laut di Kabupaten Rokan Hilir merupakan produk olahan yang berasal dari bahan baku udang. Sedangkan hasil analisis SWOT menyimpulkan bahwa posisi agroindustri perikanan laut di Kabupaten Rokan Hilir berdasarkan matriks IE pada sel V pertumbuhan dan stabilitas yang berarti posisi agroindustri perikanan laut berada pada posisi seimbang. Alternatif strategi yang dapat diterapkan adalah memanfaatkan ketersediaan bahan baku ikan dari alam, meningkatkan dukungan dan perhatian terhadap usaha agroindustri perikanan laut, meningkatkan & menjaga kualitas produk agroindustri perikanan laut, mengusulkan pelatihan terkait kemampuan manajerial keuangan, membentuk kelembagaan perikanan/ koperasi pemasaran hasil agroindustri perikanan laut, meningkatkan pelatihan yang lebih intensif dalam pengendalian hama dan penyakit, menjalin kemitraan dengan pengepul/agen/pedagang agar hasil produksi terjamin tingkat harga dalam pemasaran, membangun tempat pengolahan yang modern berbasis penanganan bahan baku sehingga tersedianya bahan baku dapat ditebar atau disimpan untuk meminimalkan biaya produksi.

Kata Kunci: AHP, SWOT, Agroindustri Perikanan Laut, Strategi Pengembangan, Rokan Hilir.

1. Introduction

Fisheries development is an integral part of national development. The role of the fisheries sector in national development can especially be seen from its function as a provider of raw materials for driving agro-industry, increasing foreign exchange through the provision of exports of fishery products, providing employment opportunities, increasing fishermen's income or regional development, as well as increasing the sustainability of fishery resources and the environment (Novika, 2019).

Fisheries in Rokan Hilir Regency are dominated by fishing production by 98% of cultivated fish production 1.54% (DKP Rokan Hilir, 2021). The high amount of marine fish caught production indicates that there is the availability of fresh fish that can be used as industrial raw material. This can trigger economic growth in the fisheries sub-sector, such as fish processing agro-industry businesses that are developing a lot in coastal areas. The production of marine fisheries in Rokan Hilir Regency from year to year is expected to show an increase, both in terms of volume and value. The volume of marine fisheries production in 2019 was 67,113 tonnes. According to the Ministry of Maritime Affairs and Fisheries, the national fish consumption rate in 2020 rose 3.47 percent to 56.39 kg/capita compared to 2019 of 54.5 kg/capita and is targeted to increase to 62.5 kg/capita in 2024 (KKP, 2022).

Rokan Hilir Regency has attractiveness and superior investment in fisheries, both capture fisheries and aquaculture and processing of fishery products for marine fishery commodities, namely having quite extensive biological resources and having human resources (HR) that are large enough and skilled in the field of fisheries according to aspects fishery. The potential resources of the coastal area can be explored according to regional capabilities and can be used as a new production center for developing the regional economy (Anah, 2017). In addition, Rokan Hilir Regency already has adequate production facilities, both capture fisheries, and fish cultivation and processing such as shellfish cultivation and fishery processing, and the price of fishery products from Rohil can compete according to the quality produced by fishermen.

Rokan Hilir Regency has an adequate distribution network, both local markets, and large markets for all fishery products, besides that Rokan Hilir has the potential to develop fishery production centers for all aspects of commodities, then the availability of raw materials far from marketing processing centers, with the opening of social media opens a marketing access network for domestic and foreign markets, this product can be competitive. So far, it is known that some of the excess production of fishery products from Rokan Hilir Regency is sent in a fresh form to outside areas in Riau Province, and some types of fish are even marketed to foreign countries. Based on the results of interviews conducted during the research, information was obtained that shipments in fresh form reached 40-60%. Several fishing industries to be processed into various forms of traditionally processed fish such as pindang, dried and salted and various other types of preparations use others. This fishing industry is known as Agroindustry.

Agroindustry comes from two words agriculture and industry that means an industry that uses agricultural products as its main raw material or an industry that produces a product that is used as a means or input in agricultural business (Arifin, 2016). This agroindustrial product can be a final product that is ready for consumption or a semi-finished product (raw material for other industrial products) (Sari *et al.*, 2014). One of the goals of an agroindustry business is to increase the income of fish farmers which can be done by increasing

production, both quality, and quantity accompanied by a good marketing system. Because without a good marketing system, there will be an increase in production but income will decrease. To encourage economic growth in the processing industry (agroindustry) sector, it is necessary to analyze the potential products of the marine capture fisheries agro-industry in Rokan Hilir Regency (Fajar *et al.*, 2014).

The marine fishery agro-industry is a type of fishery product processing that has the potential to be developed, considering that the potential for fish resources from marine waters is very large (Nurdiana, 2020). The development of agro-industry is essentially an effort to utilize natural resources and other development resources to be more productive, able to create benefit, increase foreign exchange earnings and absorb a large number of workers by taking advantage of their advantages (Muslimah & Ramadana, 2018; Naton *et al.*, 2020). The existence of the application of the fishery agro-industry in addition to increasing profits can also encourage efforts to increase the welfare (economy) of the local community and its surroundings (Miftahurrahmi *et al.*, 2018). However, not all fishermen can apply the fishery agro-industry, because there are still several causal factors (Soekartawi, 2013). Therefore, the processing of marine resources (especially fish) is generally still simple and the business scale is small so that it still has opportunities for growth and development. In the context of developing the marine capture fisheries agro-industry, it is necessary to have support and assistance from the government and related agencies regarding the strategy used for the development of the marine capture fisheries agro-industry in Rokan Hilir Regency. This is the reason for researchers to conduct research related to development strategies that are commonly applied to marine capture fisheries agro-industry in Rokan Hilir Regency. The purpose of this research is to find out strategies to improve the sustainability of the marine fisheries agro-industry in Rokan Hilir Regency.

2. Material and Method

2.1. Place and Time

This research was conducted in March 2022, taking place in Rokan Hilir Regency, Riau Province. Determining the location was done purposively, according to Sugiyono (2018) purposive sampling is sampling using certain considerations according to the desired criteria to be able to determine the number of samples to be studied. In this case, the research location is determined directly based on where the research object is located.

2.2. Method

In this study, the method used was the survey method (Suwali, 2017). The choice of location for this research was based on the consideration that in this area several fishery commodities have the potential to be developed as superior agro-industry products. The number of respondents was determined using the purposive random sampling technique. This study involved stakeholders and experts, government agencies (Head of the Fisheries Office of Rokan Hilir Regency, Fisheries Extension Officer of the Fisheries Service of Rokan Hilir Regency, Assistant Fishermen of the Fisheries Service of Rokan Hilir Regency, and representatives of agro-industry actors in Rokan Hilir Regency.

The data used in this study are primary data and secondary data. Primary data in this study were collected through observation and direct interviews with respondents using a list of questions that had been prepared beforehand. In this study, secondary data were obtained through literature studies and sourced from related agencies, such as the Fisheries Office of Rokan Hilir Regency, Riau Province

2.3. Data Analysis

Data analysis used analysis SWOT (Strengths, Weaknesses, Opportunities, Threats) to formulate strategic steps and analysis of AHP (Analytical Hierarchy Process) for determining strategic priorities in the development of marine fisheries agro-industry with the Expert Choice program version 9.0. SWOT analysis is an analysis carried out for this analysis is carried out to systematically identify various factors in the context of formulating strategies and policies to be selected. This analysis is based on a logical way of thinking in maximizing Strengths and Opportunities as well as minimizing Weaknesses and Threats (Yusuf & Muhartono, 2017).

AHP is a concept for making multi-criteria-based decisions (many criteria), several criteria that are compared to one another (based on their level of importance) are the emphasis of this AHP principle (Utama, 2017). The working principle of AHP is the simplification of a complex problem that is unstructured, strategic, and dynamic into its parts, and organizes it in a hierarchy (Pratiwi, 2020). Then the level of importance of each variable is relatively compared to other variables. From these various considerations, a synthesis is then carried out to determine which variables have high priority and play a role in influencing the results of the system.

3. Result and Discussion

3.1. Formulation of Marine Fishery Agroindustry Development Strategy in Rokan Hilir Regency

Based on the results of the SWOT analysis, the position determination for the development of marine fisheries agro-industry in Rokan Hilir Regency is on the X-axis = 2.589 and the Y-axis = 2.310. The position of

the development of the fisheries agro-industry is in cell V, meaning that the Marine Fisheries Agroindustry in Rokan Hilir Regency is in a growth process both in sales, assets, profits, or a combination of the three.

			IFE Score **(2.589)**		
			Strong	Average	Weak
			4.0	3.0 2.0	1.0
EFE Score	High	3.0	I Growth	II Growth	III shrinkage
	Medium **(2.310)**	2.0	IV Stability	V Growth/Stability	VI shrinkage
	Low	1.0	VII Growth	VIII Growth	IX liquidation

Figure 1. Internal-External (IE) Matrix of Marine Fishery Agroindustry in Rokan Hilir Regency

The strategies applied are SO Strategy (Strengths-Opportunities), WO Strategy (Weakness-Opportunities), ST Strategy (Strengths-Threaths), and WT Strategy (Weakness-Threaths). to be more clearly described in Table 1.

Table 1. SWOT Matrix of Marine Fishery Agroindustry in Rokan Hilir Regency

IFE (*Internal Factor Analisis Strategy*) / **EFE** (*Eksternal Factor Analisis Strategy*)	**Strength**	**Weakness**
	1. Strategic location and good quality raw materials. 2. Easily accessible facilities and infrastructure. 3. Skills and experience of marine fisheries agroindustry actors. 4. The products produced are of high quality. 5. Simple processing techniques.	1. The availability of raw materials still depends on the nature. 2. Financial managerial capability in managing low production cost. 3. Limited short term capital adequacy. 4. The ability of businesses to generate long-term capital is still low. 5. There is no institution in marketing fishery products.
Opportunity 1.Smooth transportation access 2.PEMDA support for business activities 3.Availability of raw materials from nature 4.Increased public interest in marine fisheries agro-industry products 5.A good business climate due to the conducive social conditions of the local community.	**SO STRATEGY** **Use strengths to take advantage of opportunities** 1. Utilizing the availability of fish raw materials from nature to support a good production process and produce quality products (O3, S4, S5) 2. Propose to related agencies to increase support and pay more attention to marine fisheries agro-industry businesses that are currently underway or will be started because they have a strategic location and good product quality (O2, S1, S2) 3. Improving and maintaining the quality of marine fishery agro-industry products (S4, O2,O5)	**WO STRATEGY** **Overcome weaknesses by taking advantage of opportunities** 1. Propose training through the UPT to related agencies regarding financial managerial capabilities in terms of managing production costs and entrepreneurship training (W2, S2) 2. Propose to the relevant agencies that fisheries institutions/cooperatives be established in terms of marketing marine fisheries agro-industry products (W5, S2)
Threats 1. Weather and climate are always changing in supporting raw materials and product processing 2. Increase in BBM and TDL 3. Security conditions are not conducive 4. Bacteria and raw material quality value 5. The price of raw materials is expensive	**STRATEGI ST** **Use force to overcome threats** 1. Maintain product quality by maintaining quality and making agreements between processors (T3, S4) 2. Propose to related agencies to increase more intensive training in conducting processing and marketing of processed products (T4, S4, S5).	**STRATEGI WT** **Minimize weaknesses and avoid threats** 1. UPT establishes partnerships with collectors/agents/traders so that production results are guaranteed a price level in marketing (W5, T2). 2. Propose to the relevant agencies to hold modern processing facilities based on raw material handling in the regions so that the availability of raw materials can be stocked or stored to minimize production costs (T5, W1).

Based on the SWOT matrix analysis in Table 1, the alternative strategies used for the development of marine fisheries agro-industry in Rokan Hilir Regency are:

1. SO strategy (using strength to take advantage of opportunities) which includes: utilizing the availability of fish raw materials from nature, increasing support and attention to marine fisheries agro-industry

businesses that are currently underway or will be started because they have a strategic location and good product quality, increase & maintain the quality of marine fishery agro-industry products.

2. WO strategy (Overcoming weaknesses through exploiting opportunities), includes: providing recommendations on training through the UPT to relevant agencies regarding financial managerial capabilities in terms of managing production costs and entrepreneurship training, proposing to relevant agencies to establish fisheries institutions/cooperatives in terms of marketing the results agro-industrial products.
3. ST strategy (Using force to avoid threats), namely: maintaining product quality by maintaining quality and making agreements between business actors in maintaining business security (business stability), making suggestions to relevant agencies to increase more intensive training in tackling bacteria and value product quality so that the production process and product quality can be improved.
4. WT strategy (Minimizing weaknesses and avoiding threats consisting of: Through the UPT establishing partnerships with collectors/agents/traders so that the production results are guaranteed a price level in marketing, proposing to the relevant agencies to hold a modern processing place based on raw material subscription in the area so that the availability of raw materials can be stocked or stored to minimize production costs.

3.2. Development Priority Selection Strategy using AHP (Analytical Hierarchy Process) Analysis

Post-harvest handling activities for processing marine fishery products carried out by fishing communities are generally a type of smallholder fishery business and are household-scale using traditional technologies, such as salting, boiling, and drying. This type of business often provides relatively low benefit. Most policymakers or business actors want types of products that can provide greater benefit that can then be used as superior products for each region. However, the lack of information regarding resource potential and post-harvest technology for each commodity makes it difficult for various regions to determine the type of product that will be made superior.

To see the potential of the superior product of the marine capture fisheries agro-industry in Rokan Hilir Regency, an analysis of all its component aspects was carried out. The selection criteria are weighted by the Analytical Hierarchy Process (AHP) method, namely the full pairwise method with a comparison scale between 1 to 9 or vice versa. The weighting of the selection criteria was carried out by taking the opinions of experts from the Department of Maritime Affairs and Fisheries and marine fisheries agro-industry business actors in Rokan Hilir Regency. The Analytical Hierarchy Process is an analytical tool developed by Saaty (1980) which can provide support for multi-criteria decision-making, due to its ability to track the logical consistency of the considerations used and provide a scale capable of measuring intangibles. After the analysis was carried out, the criteria for the superior product of the marine capture fisheries agro-industry in Rokan Hilir Regency were obtained (Figure 2).

Based on the results in Figure 2 it is known that the order of criteria that is very influential is (1) Availability of raw materials, (2) Economic value, (3) Product diversification, and (4) Raw material landing locations. Therefore, the factors of availability and continuity of raw materials are the most dominant in determining priority products of potential capture fisheries in Rokan Hilir Regency. Raw materials are the determining factor that greatly influences the sustainability of the agro-industry to be developed. Without the support of a continuous and sustainable supply of raw materials, it is difficult for the agro-industry to run properly. Experience shows that many agro-industry companies have stopped in the middle of the road due to the problem of lack of raw materials and continuity is not guaranteed.

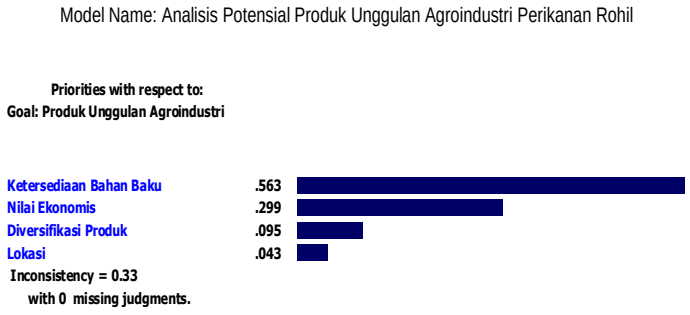

Figure 2. Analysis of Selection Criteria for Marine Fishery Potential Commodities

Description : * Criteria weighting is carried out through the opinion of related experts and analyzed using the Analysis Hierarchy Process (AHP) method

The economic value factor also plays an important role in the development of agro-industry in Rokan Hilir Regency. Raw material products from capture fisheries that go through the processing stage (product diversification) will have benefit compared to raw material products from fishery products that do not have

opportunities for product diversification. The benefit of this product diversification is very important for agro-industry businesses because it shows the amount of profit that can be obtained when these superior agro-industrial products are developed. Factors spread of the location of raw materials must also be taken into account in the development of agro-industry. Commodities that are produced centrally will facilitate the collection of raw materials thereby saving operational costs and transportation costs.

Based on interactive discussions with several respondents, lists of potential marine capture fisheries products in Rokan Hilir Regency and agro-industries that are developing in Rokan Hilir Regency were compiled. The potential catches of marine fisheries in Rokan Hilir Regency are:

Table 2. Potential Products of Marine Fishery Commodities in Rokan Hilir Regency 2021

No	Fish Type	Production result (kg)
1	Blood Clams	38.138,61
2	Kerang Bulu	4.772,77
3	Giant threadfin (*Eleutheronema tetradactylum*)	2.638,73
4	Silver croaker (*Pennahia argentata*)	1.213,66
5	Kembung (*Rastrelliger*)	895,76
6	Smallhead Catfish (*Euristhmus microcepsi)*	508,48
7	Bluecheek silver grunt (*Pomadasys argyreus*)	448,6
8	Long tongue sole (*Cynoglossus lingua*)	393,41
9	Manyung	377,91
10	Shrimp	240,53
11	Mangrove red snapper (*Lutjanus argentimaculatus*)	236,52
12	Squid	152,14
13	Selar	116,06
14	Cuttlefish	100,47
15	Silver pomfret (*Pampus argenteus*)	18,22

Source: Fisheries Service of Rokan Hilir Regency, 2021

The criteria or variables determined in determining potential fishery products are; 1) Availability of raw materials, 2) Economic value; 3) Product diversification, and 4) Location. These data were then analyzed using the Analytical Hierarchy Process (AHP) to perform pairwise comparisons of alternative commodities. Based on the results of the calculation after weighting each criterion and alternative scores of 15 types of marine fisheries commodities, the top five are taken, the results of the analysis show potential fisheries priorities for agro-industry development in Rokan Hilir Regency, namely shrimp, blood clams, Silver croaker, giant threadfin, and cuttlefish (Figure 3).

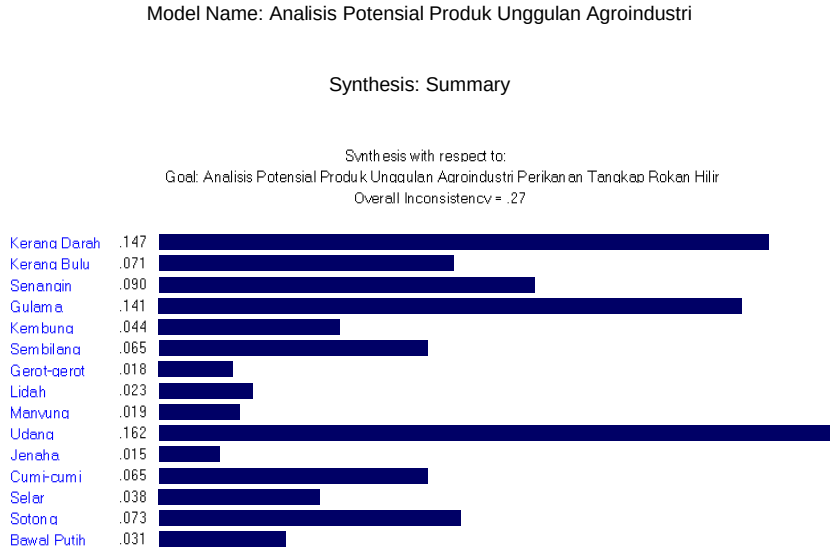

Figure 3. Analysis of Marine Fishery Potential Commodities in Rokan Hilir Regency

Technically, marine fishery products can be utilized in two forms, namely fresh and processed forms. To prevent the process of spoilage, these captured fishery products are subjected to the processing as well as preservation efforts. Alternative post-harvest technologies that will be used as the basis for processing agro-industrial products are live, fresh, freezing, boiling, salting or drying, fermenting or shrimp paste, and fish crackers. Based on the criteria for determining superior agro-industrial products that have the potential to be developed in Rokan Hilir Regency, namely processed products derived from shrimp raw materials, such as shrimp paste, shrimp crackers, and dried shrimp.

4. Conclusion

Based on the results of the research in the development of marine fisheries agro-industry in Rokan Hilir Regency produced 3 alternative strategies consisting of SO strategy (use strengths to take advantage of opportunities, 2 WO strategies (overcome weaknesses by taking advantage of opportunities), 2 ST strategies (use strengths to overcome threats) and 2 WT strategies (minimizing weaknesses and avoiding threats). Decision-making in choosing alternative strategies is left to processors as business actors according to their resources, capabilities, and capacities. In addition, potential products of the fishery agro-industry in Rokan Hilir Regency, namely processed products originating from shrimp raw material that is widely processed into various kinds of products such as shrimp paste, prawn crackers, and dried prawns.

5. Suggestion

In the results of this study, synergy is needed between fishing business actors, agro-industry actors, and the government in efforts to manage natural resources and human resources so that they remain sustainable

6. References

[DKP] Dinas Perikanan Kabupaten Rokan Hilir. (2021). Laporan Statistik Perikanan Kabupaten Rokan Hilir.

[KKP] Kementerian Kelautan dan Perikanan. (2022). *Kementerian Kelautan dan Perikanan dalam Angka Tahun 2022*. Pusat Data, Statistik dan Informasi. 348 hlm.

Anah, E.S. (2017). Pengembangan Potensi Ekonomi Kawasan Pesisir dalam Peningkatan Kesejahteraan Masyarakat. *Lembaran Masyarakat: Jurnal Pengembangan Masyarakat Islam*, 3(2): 138-153.

Arifin. (2016). *Pengantar Agroindustri*. CV. Mujahid Press. Bandung. 110 hlm.

Fajar, F., Salman, S., & Tibrani, T. (2014). Agroindustry Analysis and Salted Fish Marketing (Study case of Fisherman Village in Bangko District Rokan Hilir Regency). *Jurnal Dinamika Pertanian*. XXIX(3): 283 – 294.

Miftahurrahmi. M., Mudzakir, A.K., & Wijayanto, D. (2018). Value Chain Analysis of Anchovy Commodities (*Stolephorus* sp) in Morodemak Coastal Fisheries Port, Demak Regency, Central Java. *Journal of Fisheries Resources Utilization Management and Technology*, 7(2): 106–115.

Muslimah., & Ramadana, F. (2018). Analisis Kelayakan Bisnis Produk Karet Remah Menjadi Karet SIR di PT. Aceh *Rubber Industries* Kabupaten Aceh Tamiang. *Jurnal Agrisamudra*. 5(1): 16-22.

Naton. S., Radiansah, D., & Juniansyah, H. (2020). Analisis Nilai Tambah dan Strategi Pengembangan Usaha Pengolahan Pisang pada UMKM Keripik Tiga Bujang di Kota Pontianak. *Jurnal Sosial Ekonomi Pertanian*. 16(2): 135-148

Novika, V. (2019). *Efisiensi Penggunaan Faktor-Faktor Produksi pada Usaha Pembesaran Udang Vannamei (Litopenaeus vannamei). Tesis.* Fakultas Pertanian. Universitas Siliwangi. Tasikmalaya.

Nurdiana. (2020). *Strategi Pengembangan Agroindustri Perikanan Laut di kawasan pesisir Kecamatan Muncar Kabupaten Banyuwangi (Pendekatan Konsep Blue Economy). Skripsi.* Fakultas Ekonomi dan Bisnis. Universitas Jember. Jember.

Pratiwi, H. (2020). *Sistem Pendukung Keputusan : Metode Analytical Hierarchy Process.* STMIK Widya Cipta Dharma. Samarinda. 33 hlm.

Sari, M.M., Rifai, A., & Tety, E. (2014). Analisis Usaha Agroindustri Makanan pada UKM Berkah Kota Pekanbaru. *JOM Faperta* Universitas Riau. 1(2): 1-9.

Soekartawi. (2013). *Agribisnis Teori dan Aplikasinya*. Raja Grafindo Persada. Jakarta. 237 hlm.

Sugiyono. (2018). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Penerbit Alfabeta. Bandung. 546 hlm.

Suwali., Anwar, S., & Setiadi, A. (2017). Development Strategy of Coffee (*Coffea sp*) Agroindustry on Gapoktan Gunung Kelir in Jambu District Semarang Regency. *Agromedia: Berkala Ilmiah Ilmu-ilmu Pertanian*, 35(2): 83-92.

Utama, D.N. (2017). *Sistem Penunjang Keputusan: Filosofi, Teori dan Implementasi*. Yogyakarta: Penerbit Garudhawaca. 144 hlm.

Yusuf. R., & Muhartono, R. (2018). Development Strategy on Capture Fisheries in District Kayong Utara. *Jurnal Kebijakan Sosek KP*, 7(2): 103-114