FISH FLOUR BASED MICRO SMALL AND MEDIUM ENTERPRISES EMPOWERMENT STRATEGY: A CASE STUDY IN TOJO UNA-UNA DISTRICT

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ABSTRACT

Small fish were not used by fishermen because they could not be processed into flour. Fish flour had a large market potential because Indonesia still imports fish flour to meet the needs of the poultry feed industry. This study aimed to identify potential empowerment strategies of micro small and medium enterprises (MSME) based on fish flour being supplied as mixed rations for local livestock feed. The research sample consisted of 21 MSMEs chosen according to the criteria that they had carried out fish processing business activities in the form of abon fish and dried fish. Methods employed to answer the research objectives included descriptive analysis and SWOT. Results demonstrated that the empowerment of MSMEs based on fish flour in Tojo Una-Una District had great potential for development. This was clear from the results of the MSME responses to the motivation to increase extra value became fish flour was high enough (81.00%). The dimension of awareness was the highest variable for empowering MSMEs, followed by the dimensions of organizing, system management, technical support. The lowest dimension was mentoring cadre. Empowerment Strategy of MSMEs in the fisheries and marine sector based on fish flour in Tojo Una-Una District was more directed at the Strategy of S-O and S-T. The position map showed scores of IFAS (3.134) and EFAS (3.375). When the position map was at a high level of strength/weakness, opportunities/threats were also high.

Keywords: Strategy, Empowerment of MSME, Fish Flour.

1. INTRODUCTION

From 2016 until 2019, the vision and mission of the Central Sulawesi Regional Government has been that Central Sulawesi become in line with the advanced provinces in eastern Indonesia with regards to the development of agribusiness and marine affairs through increasing the quality of competitive human resources. This vision and mission is very possible to achieve, considering Central Sulawesi has tremendous potential emanating from its sea area of 193,923.75 km^2 with a coastline of 4,013 km^2 [1]. This indicated that the prospect of developing marine fisheries is feasible. Recorded in 2014, capture fisheries production of Central Sulawesi Province amounted to 140,465.72 tons with a production value of Rp. 1,151,496,000,000. The basic needs of Central Sulawesi are 101,690.27 tons/year, so it can be said that there is a surplus marine fisheries production of 38,775.45 tons/year in Central Sulawesi.

Touna Regency is one district that produces marine fish in Central Sulawesi, with an average production of 14,933.70 tons/year and the number of capture fisheries amounts to 4,528 units [1]. Some of the fishermen's produce is marketed directly to nearby areas and exports. Small fish such as anchovies, flatfish, and single fish were abundant in certain seasons of production but this was not utilized optimally, even by fishermen. Many fish been thrown away because, according to fishermen, the price did not balance with the cost of production [2-4].

Fisherman discard small fish because they do not understand the processing of the fish industry into flour. Fish flour has significant benefits and potential markets [5-7], because approximately 75% of Indonesia still imports fish flour to support the poultry feed industry.

In an effort to reduce these imports, it was necessary to develop the empowerment of fish flour based MSMEs. Balitbangda [8] explained that the poultry feed market potential was large where feed needed for broilers was high, namely 1,373,716.84 kg/cycle (22-30 days) or an average of 125,065.17 kg/cycle for Central Sulawesi and for laying hens 57,915.94 kg/month. If 30% of factory feed was from raw materials for fish flour, then it was clear that the fish flour that would be produced by Fishermen MSMEs could be absorbed in Central Sulawesi. Empowerment of these MSMEs would reduce the burden on the government, which imported nearly 70% of fish flour from other countries every year.

Based on the descriptions above and considering that the market potential of fish flour was still quite high, this opportunity needed to be achieved. This could be done by encouraging the empowerment of fish flour-based MSMEs of the marine fisheries sector as supplier of mixed rations of livestock local feed for production efficiency and increasing fisherman's income in Tojo Una Una District. This study aimed to identify the potential and empowerment strategies of fish flour-based MSMEs in the marine fisheries sector as a supplier of mixed rations of livestock local feed.

2. RESEARCH METHODS

2.1 Location and Time of Research

The research location was in Tojo Una-Una District, and the target respondents were MSMEs in the fisheries and marine sectors who had carried out processing activities of products for extra value.

2.2 Sampling Technique

This research used a purposive sampling method. This meant that samples were taken based on certain criteria for as many as 21 MSMEs.

2.3 Analysis Method

The analysis methods used were: (1) descriptive analysis and (b) SWOT analysis to examine opportunities, threats, strengths and weaknesses of the empowerment of fish-based MSMEs in the fisheries and marine sectors.

3. RESULTS AND DISCUSSION

3.1 The potential of fish flour-based MSME

a) Production of Mix Raw Materials for Livestock Feed

Tojo Una-una District has several superior commodities such as corn, soybean and the capture fisheries sector (Table 1).

Table 1: Superior Commodity Production as a Source of Livestock Feed Raw Materials in 2016

Number	Commodity	Total (ton)
1	lowland rice	6.997,39
2	Rainfed lowland rice	40.960,34
3	Corn	37.495,00
4	Soy	8.147,00
5	Capture Fisheries	11.453,800

Source: BPS [9].

Table 1 shows that the processing of fish flour had significant potential because of the amount of production. Approximately 25-30% of fish caught were of low economic value, which could be increased by converting it into fish flour. Other feed mixes such as corn, soybeans, and bran were easily available, so future MSME clusters producing local livestock feed could feasibly be developed in this area. MSMEs in 2016 recorded a total of 247 majority units as fish processors such as abon, dried fish, and banana chips.

b) Poultry Product Population

The population of poultry in Tojo Una-Una District was quite high and the types of poultry that many people traditionally cultivated were native chickens and laying hens. Furthermore, the population of poultry products are presented in Table 2.

Table 2: Poultry population in Tojo Una-Una District

Number	Poultry Type (Tail)	Total
1	Native chicken	308.190
2	Laying hens	31.047
3	Broiler	162.150

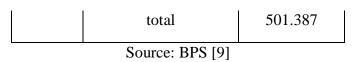|	total	501.387	

Source: BPS [9]

Table 2 indicates that the change in consumer behavior towards consumption of eggs/milk was quite high. This is clear because the amount of expenditure for meat was IDR 6,428/capita/month and expenditure for eggs/milk was IDR 15,445/capita/month or 3.80% of total household expenditure (BPS, 2017).

c) The motivation of MSME to Diversify of Fish Flour Enterprises

The results of the frequency tabulation of MSME respondents' motivation to develop enterprises other than abon fish became fish flour. The distribution of respondents' motivation is presented in Table 3.

Table 3: Motivation of respondents to diversify fish flour enterprises

Motivation	Frequency	Percent
Agree	17	81.0
Doubtful	4	19.0
Total	21	100.0

Table 3 shows that, of the 21 MSME respondents, 17 agreed to develop an enterprise or diversify enterprise into fish flour. However, there were still respondents who were hesitant, especially doubting their marketing abilities. This was a consideration because the fish flour processing enterprise was carried out on MSMEs processing clusters of livestock feed, so cooperation with the production contract system and price was needed to ensure that MSMEs were no longer hesitant in developing their enterprise.

d) Description of Empowerment Variables of Fish Flour-based MSME

The variable of empowerment fish flour based MSMEs was measured according to five dimensions, namely: (a) awareness; (b) organizing; (c) mentoring cadres; (d) technical support; and (e) technical processing.

1) Awareness Dimension

The results of the frequency tabulation of MSME respondents' responses to the dimensions of awareness with four indicators are presented in Table 4.

Table 4: Responses of respondents to the awareness dimension

Awareness Dimension	**N**	**Mean**

X1.1. Fish flour processing potential	21	4.9048
X1.2. Fish flour enterprise opportunity	21	5.0000
X1.3. Reducing imports of fish flour	21	4.9524
X1.4. Feed needs of local livestock enterprises	21	4.9048
Mean		**4.9405**

Table 4 shows that the average score for the dimension of awareness across the 21 MSME respondents was 4.9. This implied an understanding of the importance of increasing value so that products of high value, such as fish flour, ultimately contributed to increased income for enterprises from upstream to downstream. The contribution of the highest awareness indicator (X1.2) was that fish flour has enterprise opportunity, because domestic needs still relied on imports (X.13) to meet livestock feed rations.

2) Organizing Dimension

The results of the frequency tabulation of MSME respondents' responses to the organizing dimension with five indicators is presented in Table 5.

Table 5: Responses of respondents to the Organizing dimension

Organizing Dimension	**N**	**Mean**
X2.1. Enterprises planning	21	4.4762
X2.2. Human resource settings	21	4.3810
X2.3. Supervision unit	21	4.5714
X2.4. Capital strengthening	21	4.4762
X2.5. Partnerships strengthening	21	4.5238
Mean		**4.485**

Table 5 shows that the average score for the organizing dimension across the 21 MSME respondents was 4.485. This suggested that, by providing guidance on organizing MSMEs, they could be expected to have good enterprise performance. The contribution of the highest

organizational indicator value (X2.5) implied that it is very important to focus on strengthening partnerships, especially marketing partnerships, so that any doubt can be minimized. The other important indicator pertained to the supervision unit (X2.3) from the government, especially with regards to the level of assistance provided. The findings in this field demonstrated that there are some MSMEs whose program assistance was sometimes not on target, or right on target, so the tool could not be used. For this reason, the benefits were lacking.

3) Dimensions of Mentoring Cadre

The results of frequency tabulation for MSMEs' responses to the dimensions of mentoring cadre according to four indicators, are presented in Table 6.

Table 6: Responses to the mentoring cadre dimension

Dimensions of Mentoring Cadre	N	Mean
X3.1. Sustainability of the mentoring program	21	4.5714
X3.2. Active participation	21	4.4762
X3.3. Motivation and goal orientation of independence and socio-economic abilities	21	4.3333
X3.4. Appropriate assistance compensation	21	4.2857
Mean		**4.417**

Table 6 shows that the average score for the dimension of mentoring cadre was 4.417. This suggested that mentoring cadre programs for MSME can be expected to be accompanied by assistants on an ongoing basis. The contribution of the highest mentoring cadre indicator value (X3.5) was the sustainability of the mentoring program, meaning that the guidance carried out by the government should not be interrupted until the project orientation. Termination of coaching and mentoring should arrive at the MSME really could be independent. In addition, another important indicator was the active participation of MSME group members (X3.2), because the results of field observations indicated that most members were less active, for various reasons, than others, and that processing fish (abon) was less attractive. Mistakes when recruiting members meant that groups were built if there was mentoring provided. However, since 2015 the government has been recording in a database so that the formation of impromptu groups had been well anticipated.

4) Dimensions of Technical Support

Frequency tabulation results from MSME responses to the dimension of technical support according to three indicators are presented in Table 7.

Table 7: Responses to the Technical Support Dimension

Dimensions of Technical Support	N	Mean
X4.1. Supporting facilities and infrastructure	21	4.6190
X4.2. Availability of information technology	21	4.7143
X4.3. Enterprises management and production techniques	21	4.3333
Mean		**4.555**

Table 7 shows that the average score for the dimension of technical support was 4.555. This implied that providing technical support to MSMEs was expected to contribute to technical mastery of the processes. The highest contribution indicator value (X4.2) was the availability of information technology. Support for information technology, such as telecommunications networks, was felt to be very important because most of the island's territory were not yet able to access the Handphone network, so information marketing became hampered. In addition, technical facilities and infrastructure support (X4.1) such as processing equipment, raw material preservatives also contributed. The lowest contributor was enterprise management. Technical support was needed because, generally speaking, MSMEs had never processed fish flour, so technical support was extremely necessary.

5) System Management Dimensions

Frequency tabulation results from MSME responses regarding the dimension of system management according to four indicators are presented in Table 8.

Table 8: Responses to the Dimensions of System Management

Dimensions of System Management	N	Mean
X5.1. Linkages/synergies with the activities of other institutions	21	4.7619

X5.2. Continuous monitoring and evaluation system	21	4.7143
X5.3. Analysis of funding needs	21	4.6667
X5.4. Coordination of related institutions	21	4.7619
Mean		**4.7262**

Table 8 shows that the average system management dimension score across the 21 MSME respondents was 4.7262. This suggested that MSMEs with good system management could be well-developed.

The contribution of the highest indicator values (X5.4 and X5.1) was the coordination of related institutions, meaning that the MSME empowerment program seems to run partially towards MSME groups. On the other hand the empowerment other institutions or agencies was also in the same group, so it was expected that financing would be more focused and efficient as well as technical. In addition, the contribution of a sustainable monitoring & evaluation system indicator (X5.2) so that MSMEs could be detected as early as possible as being in accordance with the program or not.

3.2. Empowerment Strategy of Fish Flour-Based MSME

Internal Factor Analysis Summary (IFAS) and External Factor Analysis Summary (EFAS)

The total score value obtained according to variables and indicators, based on the results from the identification of IFAS factors are presented in Table 9 below.

Table 9: Internal Factor Analysis Summary (IFAS)

	Internal Factor	Weight	Rating	Weight x Rating
Strenght				
1	Potential of raw materials	0.198	4.00	0.792
2	Fish processing experience	0.192	3.00	0.576
3	Group participation	0.098	2.00	0.196
4	Group motivation for products extra value	0.197	4.00	0.789
	Total Strenght	**0.685**		**2.353**

	Weakness			
1	Enterprises planning	0.055	3.00	0.165
2	Human resources settings	0.162	2.00	0.324
3	Regional government supervision unit	0.052	3.00	0.156
4	Strengthening of capital / partnership	0.068	2.00	0.136
	Total Weakness	**0.337**		**0.781**
	Total IFAS Score	**1.00**		**3.130**

The results in Table 9 indicate that the strategy for empowering fish flour based MSMEs shows IFAS values of 3,130 contributed to by a score with a strength of 2,353. This suggests that the empowerment of fish flour based MSMEs was strongly supported by indicators of potential regarding raw materials, the experience of MSMEs in the processing sector, and the participation of groups. MSMEs were highly motivated to increase value and diversify their businesses from abon fish to fish flour. Besides the strength factors in the MSME empowerment strategy, there are also several indicators of weakness. Table 5 shows the weakness factor value was 0.781. This implied that business planning indicators, regional government supervision units against MSME groups, and the strengthening of partnerships/capital were priorities for improvement according to the needs of MSME groups.

In addition to the factors of strengths and weaknesses described above, the results of the external factors analysis can be displayed as shown in Table 10.

Table 10: External Factor Analysis Summary (EFAS)

External Strategy Factors		Weight	Rating	Weight x Rating
Oportunity				
1	Business opportunities were quite large	0.130	4.00	0.520
2	Imports of fish flour were quite high	0.095	4.00	0.380
3	Meet local animal feed needs	0.102	3.00	0.306
4	Compensation of companion	0.081	4.00	0.324
5	Supporting facilities and infrastructure	0.051	4.00	0.204
6	Linkages/synergies with other activities	0.031	2.00	0.062

7	Ease of production and business management techniques	0.073	2.00	0.146
	Total Opportunities	**0.563**		**1.943**
Threat				
1	Information Technology	0.140	4.00	0.560
2	The Monitoring and evaluation system is not measurable	0.130	3.00	0.390
3	Analysis of funding needs	0.134	3.00	0.402
4	Coordination between institutions	0.040	2.00	0.080
	Total Threats	**0.444**		**1.432**
	Total EFAS Score	**1.00**		**3.370**

Table 10 outlines that the strategy for empowering fish flour based MSMEs shows an EFAS value for opportunity variables of 1.943 contributed to by the highest value of indicators of fish flour business opportunities, imports of fish meal (which were high enough for domestic animal feed needs), availability of facilities and adequate supporting infrastructure, ease of production techniques, and linkages and synergies with programs from other agencies.

Besides opportunity factors in the empowerment of fish flour based MSMEs, there were also several threat indicators. Table 10 outlined threat factor values in the MSME empowerment strategy of 1.432 contributed to by the threat value from information technology indicators, non-continuous monitoring and evaluation systems, analysis of funding needs for working capital and the sustainability of mentoring staff funds.

Furthermore, the IFAS and EFAS matrices can be outlined as follows.

Table 11: Strategy for the Empowerment of Fish Flour Based MSMEs in Tojo Una-Una District

IFAS EFAS	Strength Strategy (S)	Weakness Strategy (W)
Opportunity Strategy (O)	Strategy (SO) 2.353 + 1.943 = 4.295	Strategy (WO) 0.781 + 1.943 = 2.724

	Strategi (ST)	Strategi (WT)
Treath Strategy (T)	2.353 + 1.432 = 3.785	0.781 + 1.432 = 2.213

Sources: Tables 9 and 10

Table 11 demonstrates that the MSME empowerment strategy was in the SO strategy with a value of 4,295 and ST strategy with a value of 3,785. This indicates that the power possessed by MSMEs aims to seize opportunities. In particular, MSMEs that understood the importance of increasing the value of products focused on fish flour to increase their income and, at the same time, increased the income of fishermen. Similarly, the ST strategy, with the strength possessed by MSMEs, was expected to avoid threats from dimensions of the MSME institutional management system. Based on this, strategies can be formulated as follows (Table 12).

Table 12: SWOT Matrix of the strategy of the empowerment of fish flour-based MSME

IFAS / EFAS	Strengths:	Weaknesses:
IFAS	• Potential for fish processing at the MSME level • The ability to develop diversification businesses • Group participation • The motivation of groups in increasing extra value	• Business planning • HR settings • Monitoring unit from the regional government • Strengthening capital and partnership
Opportunities: • Business opportunities • High demand for imported flour • Consumption of local animal feed • Compensation of Companion • Supporting facilities and	**S-O STRATEGY** 1. Utilizing the potential of raw materials to seize business opportunities for MSMEs in the local animal feed sector 2. Increasing active participation and encouraging the motivation of MSMEs in processing fish flour to reach	**W-O STRATEGY** 1. Increasing skills in business planning to achieve business opportunities with good techniques of production and business management 2. Providing facilities and infrastructure for supporting businesses and increasing supervision of the use of facilities

infrastructure • Synergy with other programs • Production and business management techniques	the market, which has been dependent on imports 3. Providing ongoing assistance with appropriate incentives for the business escort team 4.Increasing the ability of production techniques to produce the quality of fish flour according to standards for animal feed	and infrastructures that have been facilitated for MSMEs 3.Encouraging strengthening cooperation with farmers and synergizing with activities in other agencies
Threats • Linkages/synergies with other activities • Measured monitoring and evaluation system • Analysis of funding needs • Coordination between institutions	**S-T STRATEGY** 1. Establishing cooperation with other agencies that were synergistic with MSME development activities 2. Encouraging business diversification by analyzing capital needs or funding for MSMEs 3. Increasing coordination between institutions related to fisheries and marine institutions	**W-T STRATEGY** 1. Measuring the performance of MSMEs by conducting regular monitoring and evaluation 2. Train MSMEs in business planning and capital 3. Coordinating the programs/activities carried out by the relevant agencies, so that training funding was adequate and sustainable

Source: Results of Primary Data Analysis, 2017

4. CONCLUSION

The empowerment of fish flour based MSMEs in Tojo Una-Una Regency holds great potential where the motivation to increase value in the form of fish meal is quite high (81.00%). Awareness is a particularly important dimension in the empowerment of fish flour based MSMEs, followed by organizing, system management, technical support, and cadre formation. Strategies for the empowerment of fish flour based MSMEs in the fisheries and marine sector of the Tojo Una-Una District were more directed at the strategy of S-O and S-T. It was necessary to conduct socialization, guidance, and awareness of the empowerment of fish flour based MSMEs in the fisheries and marine sectors of Tojo Una-Una District because the business had a high market opportunity as a more efficient mixed ration of livestock local feed.

5. ACKNOWLEDGMENTS

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