Value-Added Analysis and the Development Strategy of Processed Catfish Enterprises in Musi Rawas District

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ABSTRACT

The objective of this research were to analyze of value added and to determine the development strategy of processed enterprise. The descriptive survey methode was used in this study. The respondents were processor, farmer, middlemen of catfish in Musi Rawas District. The data were analyzed using calculation of value added and SWOT method. The results showed that the product of shredded (abon), skin cracker (kerupuk kulit lele), and bone cracker (kerupuk tulang lele) increase the total return Rp. 141,533.33/kg., Rp. 53,533.33/kg., and Rp. 53,333.33/kg, respectively; the income of labor was Rp. 10,666.67/kg. It was meant the total return was Rp. 248,200/kg and the total value added was Rp. 214,632.63/kg. Whereas the total profit was 203,965.97 per kg with the profit rate 82.18 percent. Furthermore, the SWOT analysis showed that the development strategy for processed-catfish enterprices were improvement of capability to provide raw material, development of partnership with catfish farmer, hold of product diversity, and maintain of market penetration.

Key words: Value added analysis, development strategy, processed-catfish enterprises

INTRODUCTION

Catfish has been recognized as one of the development programs in the ministry of marine affairs and fisheries (Ferdian *et al*., 2012). In Musi Rawas district, the development program was intended to meet both demand of households and processed industry (Dinas Peternakan dan Perikanan, 2015).

In general, adding value is process of changing original product to be more valuable (Salehe *et al*., 2014). Therefore, the presence of processed industry is helped farmers in the marketing and employment. So it is important to be developed to accelerate economic growth in rural areas. Research of Adebo and Toluwase (2014), showed that marketing of both fresh and smoked fish was profitable, how ever, smoked catfis marketing was found to be more profitable than fresh catfish marketing. Amin (2004); Kaliba and Engel (2004); Hapsari et al (2008) Maharani *et al.* (2010); Harisudin *et al*. (2014); and Salehe *et al.* (2014) explain that the innovation program of agro-industri were increase household income, employment, and competitiveness of product.

From year to year, consumtion both fresh catfish or catfish-processed was increasing. In 2013 the consumtion has reached 8.000 ton (Badan Perencanaan Pembangunan Daerah, 2014). The demand and supply catfish depend upon the performance of culture catfish. In the last two years, the production of catfish had increased from 5.382 tons in 2012 to 7.885 tons in 2013 (Dinas Peternakan dan Perikanan, 2014). The problem is, if the price of catfish for consumption favorable, the processor of shredded will shortages raw material, so that interfered the productivity. Shortage raw material can be overcome by the contracting between processors and producers. Coltrane et al. (2000), explained that the relationship between processors and producers in the recent years might supply special characteristics inputs.

The SWOT (strength, weakness, opportunities, and threats) analysis is a study to address the situation undertaken by an organization to identfy its internal strengths and weaknesses, as well as its external opportunities and threats. SWOT is one of the management methode to develop strategies. Its's commonly used as a tool for the analysis of internal and external faktor in order to achieve a systematic approuch and support to address the situation (Oreski, 2012). Therefore, to overcome the problem of catfish agroindustry, it is necessary studying the value-added, and formulating the strategy of development program through the analysis of value-added and SWOT.

MATERIALS AND METHODES

This study was conducted in the Musi Rawas District, the province of South Sumatera, included three sample village, Manaresmi, Nawangsasi and Mardiharjo. The choice of location was based that those village was center of catfish farm and catfish shredded.

A survey methode was applied upon three group of stakeholders involved in catfish shredded, the catfish farmer as raw material supplier, the middlemen and the small business group catfish shredded. Number of 50 sample of suppliers were determined by stratified random sampling proportionally, 10 in Manaresmi, 15 in Nawangsasi and 25 in Mardiharjo. Whereas of 10 trader were selected through snowball sampling, and 3 shredded business group totally, determined as respondents.

The data were collected by interviewing respondents using questionares and observation. Value-added analysis and SWOT analysis were used to analyze the data.

Value-added showed the benefit of labor, formulation and management that notice matematics as (Sudiyono, 2001):

Value-added = f (C,R,L,W,P,p,A);
Where: C = Capasity of Production, R = Raw Material Using, L = Labor Using W= Wages, P = Price of Output, P = Price of Raw Material, L= Value of Additive

RESULTS AND DISCUSSION

The result of colecting data showed that the average of raw material (catfish) price is Rp. 20,000/kg, and 66,67 % of raw material was purchased from middlemen. Marketing channel of catfish for shredded was showed in Figure 1.

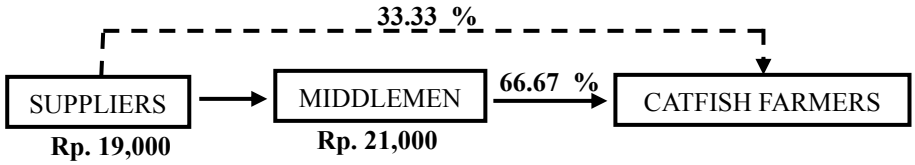

Figure 1. Marketing Channel of Catfish for Shredded

The value added analysis is presented in Table 1. The result reveals the return of Rp. 141,533.33, Rp. 533.33, and Rp. 533.33 per kg for shredded, skin cracker, and bone cracker respectively, thereby total return are Rp. 248,200 per kg. Furthermore, data shows the value added of Rp. 214,632.63 with a ratio of 86.48 percent; the labor income of Rp. 10,666.67 with 4.49 percent share of the labor; and a profit of Rp. 203,965.97 with 82.18 percent profit rate. It could be inferred that the increase in value-added catfish have been able to be used as a solution to overcome the economic problem in the rural.

According to the SWOT Analysis (Jovović and Janković, 2008), we may identify the following major problem areas: Inadequate inputs, Inadequate growing techniques, Fragmented production, Limited technical knowledge, Poor managerial skills of producers' groups, and High costs of on-farm investments and the credit needed to make them. To determined the strategy applied in development of shredded enterprised were establihed through the folowing two step table matrix (Table 1 and Table 2).

Table 1. Calculation of Value-Added of Catfish-processed

No.	Output, input and price	Amount	No.	Cost, return and profit (Rp)	Amount
1.	Output per month		1.	Raw material cost (30 kg)	600,000.00
	Shredded grade 1 (pack)	200.00	2.	Additive	407,021.00
	Shredded grade 2 (kg)	1.00		Brown sugar (2.4 kg)	36,000.00
	Bone cracker (Pack)	200.00		Coconut milk (12 kg)	96,000.00
	Skin cracker (pack)	200.00		Shallot (1.2 kg)	36,000.00
2.	Raw material (kg/mont)	30.00		Garlic (1.2 kg)	30,000.00
3.	Labor (hour/month)	64.00		Coriander (2 kg)	10,000.00
4.	Convertion faktor			Gas (1tube)	80,000.00
	Shredded grade 1	6.67		Pack (4 pack)	56,000.00
	Shredded grade 2	0.03		Depriciation (Rp.)	63,021.00
	Bone cracker	6.67	3.	Total input	1,007,021.00
	Skin cracker	6.67		Input coefisien	33,567.37
5.	Labor coefisien	2.13	4.	Production value (Rp.)	248,200.00
6.	Price of Product (Rp./unit)			Shredded grade 1	133,333.33
	Shredded grade 1	20,000.00		Shredded grade 2	8,200.00
	Shredded grade 2	246,000.00		Bone cracker	53,333.33
	Bone craker	8,000.00		Skin cracker (Rp.)	53,333.33
	Skin cracker	8,000.00	5.	Added-value (Rp.)	214,632.63
7.	Wage of labor (Rp./hour)	5,000,00		Added-value ratio	86.48
			6.	Labor income (Rp.)	10,666.67
				Share of income (%)	4.97
			7.	Profit (Rp)	203,965.97
				Rate-advantage (%)	82.18

Table 2. Matrix of Strategy of SO-WO in Shredded Enterprised

Internal Factor / External Factor	Strength (S)	Weakness (W)
	1. Human resources 2. Mastery of technology 3. The derivative product 4. Deversification of product	1. Production capacity is limited 2. Perishable product 3. Packaging is simple 4. Limited in promotion
Opportunities (O)	Asumtion of Strategy S-O	Asumtion of strategy W-O
1. Availability of raw material 2. Government support 3. Increased demand 4. Availability of technology packaging 5. The availability of capital in banking	1. Improvement of capability in providing raw material (S_1, S_2, S_3, S_4, O_1, O_2, O_3, O_4, O_4) 2. Improvement of accessibility to capital and technology (S_2, S_4, S_5, O_1, O_2, O_4, O_5) 3. Continuous increasing the ability of production to meet demand (S_1, S_2, O_1, O_2) 4. Continuous improvement of technology (S_1, S_2, S_2, S_4, O_3, O_4) 5. Improvement of the capital to expansion	1. Development of partnership in providing raw material (W_1, W_2, O_1, O_2, O_3) 2. Take promotion at events held government (S_4, O_2, O_3) 3. Improvement of production techniques and packaging (S_2, S_3, O_2, O_4) 4. Utlizing credit scheme (S_1, O_2, O_5)
Threats (T)	Asumtion of Strategu S-T	Asumtion Strategi W-T
1. The performance of product and packaging 2. Cost production fluctation 3. Purchasing power of consumers 4. Competitor product first that entering market	1. Improvement of product performance (S_1, S_2, T_1, T_4) 2. Development of alternatif input (S_2, T_2, T_4) 3. Improvement of efficiency (S_2, S_4, T_2, T_4) 4. Development of product diversity (S_1, S_2, S_3, S_4, T_1, T_3, T_4)	1. Improvement of product quality (W_3, T_1, T_4) 2. Development of storage to maintain input supply (W_2,T_2) 3. Improvement of productivity (W_1, T_2, T_3) 4. Maintain of market penetration (W_1, W_4, T_1, T_2, T_4)

Identification of matrix strategy of S-O and WO in table 2, had selected eight strategies in shredded enterprises. It were improvement of capability in providing raw material, improvement of accessibility to capital and technology, improvement of product performance, development of product diversity, development of partnership in providing raw material, improvement of production techniques and packaging, improvement of product quality, and maintain of market penetration.

The next step (Table 3) was conducted to aranged development strategies of processed-catfish enterprised. The results reveal that the highest value of external factor was availability of raw material (1.116), and competitor product first that entering market (1.248). Its mean that the strategy of processed-catfish enterprises in Musi Rawas was improvement of capability in providing raw material, development of product diversity, development of partnership with farmer in providing of raw material, and maintain of market penetration.

Table 3. Matrix evaluation of external factor of shredded enterprise

No.	External Factor	Weight	Rank	Value
	I. Opportunities			
1.	Availability of raw material	0.279	4	1.116
2.	Government support	0.251	4	1.004
3.	Increased demand	0.203	4	0.812
4.	Availability of technology packaging	0.171	3	0.513
5.	The availability of capital in banking	0.096	3	0.288
	Sub total	1.000		3.733
	II. Threats			
1.	The performance of product and packaging	0.212	4	0.852
2.	Cost production fluctation	0.312	4	1.248
3.	Purchasing power of consumers	0.154	3	0.462
4.	Competitor product first that entering market	0.321	4	1.284
	Sub total	1.000		3.846
	Total			7.579

CONCLUSIONS

The present research showed that the product of shredded, skin cracker, and bone cracker increase the total return Rp. 141,533.33/kg., Rp. 53,533.33/kg., and Rp. 53,333.33 respectively, the income of labor was Rp. 10,666.67/kg. It was meant the total return was Rp. 248,200/kg and the total value added was Rp. 214,632.63/kg. Whereas the total profit was 203,965.97 per kg with the profit rate 82.18 percent. Furthermore, base on SWOT analysis, and matrix evaluation of external factor showed that the development strategy for processed-catfish enterprises was improvement of capability to provide raw material, development of partnership in providing of raw material, hold of product diversity, and maintain of market penetration.

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