PROCESSING OF SEA PRODUCTS BASED ON LOCAL RESOURCES AND ITS FINANCIAL ASPECTS: SHREDDED FISH PROCESSING

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ABSTRACT

Tarakan City is a potential area for fishery products where most people still sell their catch to traders. To increase the income of fishermen's families, it is necessary to train marine products processing which is a local resource. Thus, the purpose of this service is to add value to the catch of fishermen. The method of activity carried out is to provide an understanding to the community of the added value generated and direct practice of making shredded fish. From the results of the activity, the results obtained for producing shredded with an experiment of 3 kilograms of each type of fish obtained shredded milkfish products weighing 12 ounces with a potential profit of IDR316,000.00 shredded tuna weighing 13 ounces with a potential profit of IDR336,000.00 and gulamah shredded fish weighing 7 ounces with a potential profit of IDR141,000.00 per production. Likewise, this product was a village product whose main source of raw materials comes from the local area.

Keywords: Training, Catch, Cost, Revenues, shredded.

INTRODUCTION

The development of coastal communities is one of the efforts made by the government related to its contribution to the domestic fishery supply which is still 80 percent. The level of poverty still occurs in coastal communities, the majority of whom work as fishermen or have direct interactions with the sea. On the other hand, the fishery sector in the city of Tarakan is one of the sectors that contributes greatly to Regional Gross Domestic Product (Hatta & Darmawanto, 2020).

Knowing the potential possessed by a region in the context of a sustainable development and development strategy is the key to success. Tarakan City is an area that has a lot of natural resource potential, especially the results of the marine and fisheries sector. The value of capture fisheries alone is 970 billion every year (Badan Pusat Statistik Kota Tarakan, 2021).

Fisheries-related activities are mostly carried out in fishing villages in the coastal area of Tarakan City. Most of the people directly sell their catch, both to collectors and traders, who are then re-traded. In addition, most fishermen's incomes are still low compared to other sectors (Darmawanto et al., 2020). Therefore, efforts are needed to prosper the fishermen for the sustainable development of the fisheries sector.

The need to increase Micro small and Medium Enterprises is a membrane for additional income to the fishery sector. The Tarakan City Government continues to make various efforts to advance the Micro, Small and Medium Enterprises (MSME) sector in its area. Especially during the pandemic, the Mayor of Tarakan is seriously looking for ways, so that MSME actors in his city can survive and move forward.

There are various kinds of products that can be produced from marine products that allow them to be processed by the community

themselves (Sajriawati & Amir, 2021). This is because it requires equipment and household equipment owned by the community. However, it requires training and coaching in aspects of production and marketing which will have its own appeal to the processed products. One of the products that are in great demand by the public is shredded fish. This product has a taste that suits Indonesian consumers and has export potential. This is because this product can have a longer durability compared to other handmade products.

Based on the explanation above, to improve the welfare of fishermen and provide added value to local catches/products, it is necessary to conduct training on marine product processing to the community, especially fishermen's wives in the form of fish floss production that has attractiveness.

METHOD

The form of activity carried out is processing three types of fish which are commonly found in coastal areas, especially in fishing villages, fishing villages, RT 25/30. The 3 fish are milkfish, gulama fish and skipjack tuna. These three types of fish are types of fish that are abundant in the city of Tarakan. Tongkaol fish which is a deep-sea fish that has a lot of meat content, gulama fish which is very easy to find in any water area so that it becomes the commodity most often found by fishing fishermen. As well as milkfish, both sea milkfish and cultured milkfish, which are very abundant in Tarakan.

Activities are carried out by involving potential housewives to support the family economy by carrying out production activities on a micro or small scale. They are fishermen's wives who are concentrated in fishing villages which mostly carry out fishing activities.

Activities are carried out by aiding direct simulations of processing raw fish into shredded fish, calculating the potential profit from the simulation results, determining the price level of the desired profit target, determining the weight of perpak for production and designing a pac of shredded fish that is ready to be marketed.

From various online sources, it can be seen how to process fish into shreds (Nugraha, 2021). One way, as reported by merdeka.com, in the content of recipes, is to prepare ingredients and equipment and processing methods. The ingredients needed are fresh fish meat, spices, rock sugar. The equipment used is cooking utensils which can be obtained in the kitchen in general. How to make it is fresh fish that has been steamed, roasted and spices until it becomes shredded.

The financial analysis of shredded fish processing is to calculate the total cost, potential total revenue, potential profit, and break-even points. The total cost calculation is the sum of the fixed costs and variable costs, where,

$$TC = FC + VC \ldots\ldots\ldots\ldots\ldots\ldots(1)$$
Where,
TC = Total Cost
FC = Fixed Cost
VC = Variabel Cos

Likewise, to calculate the potential revenue is to multiply the price by the potential quantity as follows,

$$TR = P \times Q \ldots\ldots\ldots\ldots\ldots\ldots(2)$$
Where,
TR = potension of Total Revenue
P = Set Price
Q = The potential for the number of pacs produced

Profit Estimation (Kaet & Hutapea, 2016; Sajriawati & Amir, 2021) can be written based on the following formula:

$$\Pi = (P \times Q) - (FC + VC) \ldots\ldots..(3)$$
Where,
Π = the Potensila Profit

To calculate the estimated profit per unit of production of 3 kg, the potential revenue which is calculated from the price and the total quantity produced is reduced by the total variable costs as follows:

$$\Pi = (p \times q) - VC \ldots\ldots\ldots\ldots(4)$$
Dimana,
p = Set Price per pac
q = pac quantity of production for 3 kg of fresh fish.

Based on the financial estimation by considering the components of fixed costs (FC) and variable costs (VC), it can be written down the principal return time (BEP) of Production activities. In this case, FC is compared with prices and costs per unit of production. To find

out the variable cost per unit of product, it can be written,

$$vc = \frac{VC}{q} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(5)$$

where,

vc = variable cost per unit of product

VC = variable cost

q = quantity of production pac for 3 kg of fresh fish

The BEP formula itself can use two methods, namely unit BEP and nominal BEP (rupiah).

$$BEPu \quad = \frac{FC}{p-vc} \quad \ldots\ldots\ldots\ldots\ldots(6)$$

$$BEPr \quad = \frac{FC}{1- {vc}/{p}} \quad \ldots\ldots\ldots\ldots\ldots(7)$$

Dimana,

BEPu   = Break even poin of unit

BEPr   = Break even poin of rupiah

After all the steps related to the financial analysis have been carried out and the quantity of pac has been determined, the last step is to design the product/packaging which will be ready to be marketed. This result will be a village product.

RESULT AND DISCUSSION
Finansial Analysis

In this service activity, a trial of shredded production was carried out with three types of fresh fish, namely milkfish, gulama fish and skipjack tuna with a weight of 3 kg each. Shredded fish provides potential income for coastal communities so that it can become a promising business (Kaet & Hutapea, 2016). D Thus, to produce abon, the estimated cost is as in the following table:

Costs

The costs that have been incurred are all units of need multiplied by the unit price for processing one unit of shredded fish. The components of variable costs are as follows,

Table 1. Material cost (Variabel Cost/VC)

No	Materials	Amount	Unit	Unit price (IDR)	Number (IDR)
1	Milkfish	3	kg	20.000	60.000
2	Red onion	10	clove	4.000	4.000
3	Garlic	10	clove	5.000	5.000
4	Galangal	1	segment	2.000	2.000
5	Brown sugar	10	grams	7.000	7.000
6	Lemongrass	1	segment	5.000	5.000
7	Coconut cream	1	seed	10.000	10.000
8	Pepper	5	grams	4.000	4.000
9	Gas/fuel	1	kilos	7.000	7.000
	Total VC				104.000

Information:
The cost treatment for 3 types of fish is the same, the price of milkfish is IDR60,000.00/3 kg, SkipJack fish is IDR75,000.00/3 kg, and gulama fish is IDR60,000.00/3 kg.
Source: primary data, processed

Fixed costs are all components of equipment required to produce one unit of shredded. This fixed cost can be expressed as an investment to run a shredded fish production business. The components of fixed costs are as follows,

Tabel 2. Biaya Peralatan (Fixed Cost/FC)

No	Tools	Amount	Unit	Price per unit (IDR)	SUM (IDR)
1	1 eye stove	1	unit	400.000	400.000
2	Medium skillet	1	unit	40.000	40.000
3	range	2	unit	5.000	10.000
4	Medium Bucket	1	unit	20.000	20.000
5	Knife	1	blade	20.000	20.000
6	LPG 3 kg	1	unit	250.000	250.000
	Total FC				740.000

Source: primary data, processed

Production Simulation Results

Making shredded fish is directly practiced by housewives/fishermen's wives. Based on the sources that have been referred to, the making of shredded can be done easily and without problems. The processed results of the three types of fish can be seen in the following picture,

Shredded Milkfish,   Shredded skipjack fish,   Shredded Ghumah Fish
Figure 1. Shredded the results of the three types of fish

The three types of fish have differences in texture, mass, and volume of meat so that the shredded meat produced is different from each type. From the visible results, there are differences in color, aroma, taste, and volume of production. However, product marketing is determined by weight. The difference is only based on the price level.

Table 4. Yield for 3 kg of fresh fish:

products	Yield weight (ounce)
Weight of Shredded Milkfish	12
Weight of Shredded Skipjack fish	13
Weight of Shredded Gulamah	7

Source: primary data processed

Thus, the determination of the packaging of shredded fish with a packaging weight of 1 ounce with a targeted price of IDR35,000.00. The volume of the packaging is designed not too big and not too small to be suitable as souvenirs or typical village products. Likewise, the price must be set above costs so that the Revenue Cost Ratio (BC ratio) and benefit cost ratio (BC ratio) are greater than 1, meaning that the financial aspect of this business is profitable (Gray et al., 2007; Rahim & Hastuti, 2007). This is adjusted to the targeted profit margin and the observation of the product market potential.

Tabel 5. The results of the analysis of the financial potential of the shredded fish business

No	Kinds of Fish	FC (IDR)	VC (IDR)	Q (ounce)	Vc (IDR)	P (IDR/pac)	Π (IDR)	BEPu (IDR)	BEPr (IDR)
1	Milkfish	740.000	104.000	12	8.666,67	35.000	316.000	28,10	983.544,30
2	skipjack fish	740.000	119.000	13	9.153,85	35.000	336.000	28,63	1.002.083,48
3	Ghumah Fish	740.000	104.000	7	14.857,14	35.000	141.000	36,74	1.285.815,42

Source: primary data processed

As the table above shows, from the results of 3 kg of processing for each of the 3 types of fish, the results obtained can be described as follows.

- Shredded Milkfish is obtained with a production weight of 12 ounces with a potential profit level of IDR316,000,00. Time to return to principal / return on capital occurs when the production is 28.1 pac or with variable costs of IDR983,544.30. Milkfish is a superior product around the Tarakan area because the pond area is very large. Thus, the availability of raw materials is always guaranteed.
- Abon Ikan Tuna is produced with a weight of 13 ounces with a potential profit level of IDR336,000.00. Time to return to principal / return on capital occurs when the production is 28.6 pac or with variable costs of IDR1.002.083.48. Thus, tuna produces more shredded fish than the other two types of fish. The profit rate is also the highest.
- Abon Ikan Gulama was produced weighing 7 ounces with a potential profit level of IDR141,000.00. Time to return to principal / return on capital occurs when the production is 36.7 pac or with a variable cost of IDR1,285,815.42.00. Gulama fish is a local product of marine products that is very abundant and easy to find in the area around the activity. However, the level of production is the least among the three types of fish. Abon gulama fish needs to be produced more and costs more so that the return of principal will occur.

Output Produce

KActivities that have been carried out in Karang Anyar Pantai Village, especially in coastal fishing settlements, have run smoothly and can contribute to the community. The outputs resulting from this activity are:
- Book of community service activities for marine product processing based on local resources, Karang Anyar Pantai Village, RT 25/30
- Village products in the form of packaging of shredded skipjack tuna, shredded milkfish and shredded gulama fish which are ready to be marketed weighing 1 ounce / pack at a price of IDR35,000.00 as shown below,

Figure 2 Fish Shredded Design and Packaging

CONCLUSIONS AND RECOMMENDATIONS
Conclusions

The activity of processing local resources, especially fish into packaged shreds, has the potential to be carried out in RT 25/30.
- The costs incurred to produce 3 kg of fish are IDR104,000.00 for milkfish, IDR119,000.00 for skipjack fish and IDR104,000.00 for gulama fish.
- Abon that can be produced from 3 kg of milkfish is 12 ounces, tuna is 13 ounces, gulamah fish is 7 ounces.
- The published price for one package of shredded 1 ounce is IDR35,000.00.
- The profit rate for 3 kg of fish is IDR316,000.00 for milkfish, IDR336,000 for tuna and IDR141,000.00 for gulamah fish.
- The main return time or BEP occurs at the

time of production as much as 28.1 ounces/package or at a cost of IDR983,544.30 for milkfish, 28.6 ounces/package or at a cost of IDR1.002.083.4831 for tuna and 36.7 ounces/package or at a cost of IDR1,285,815.4204 for gulama fish.

The processing activities of the three types of fish have the potential to be carried out because of the availability of local resources and the high level of profit.

Recomendations

This activity provides opportunities for coastal communities to increase family income through processing marine products which are local resources through fish processing into shredded fish. With shredded marketing at the local level and support for the development of information and communication technology, it will be able to be marketed outside the local level so that entrepreneurial potential can be developed among housewives.

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