DOI 10.18551/rjoas.2019-09.11

DEVELOPMENT MODEL OF SEAWEED JELLY INDUSTRY VALUE CHAIN TO INCREASE SUSTAINABLE VALUE ADDED

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ABSTRACT
The paper aim to developing of Seaweed Jelly industry value chain model that can increase sustainable value added. Detail purpose of this paper are designing initial model, constucting development model,and then calculates the amount of value added projectionthat can be accepted from the development model of Seaweed Jelly industry value chain. The research was conducted in the coastal area of Muna Regency of Southeast Sulawesi Province, ie Lasunapa Village, Gonebalano Village, and Lagasa Village, where 50 respondents were assigned to each village through purposive sampling technique, The analysis used is Activity Based Costing (ABC), Focus Group Discussion (FGD), and Hayami Method. The paper finding showed that; (1) there is an increase of product value added from Rp. 29,050,-/kg on the initial model, to Rp. 33,250,-/kg on thedevelopment model resulting in an increase in profit from Rp. 9,050,-/kg on the initial model to Rp. 13,250,-/kg on the development model; (2) there is an increase of profit margin from Rp. 54.000,-/kg on the initial model to Rp. 59,500,-/kg on the development model. This research does not carry out a deep analysis of the institutional industry, so that the future needs to be done institutional model development of the seaweed jelly industry. The paper include implication for the increasing productivity and community welfare. The paper includes implications for the cost reduction and increase value added of seaweed jelly industry. This paper resulting an development model and value added projection from that development model.

KEY WORDS
Development model, value chain, value added, activity based costing, Hayami method, seaweed jelly industry.

The development of community-based Seaweed Jelly industry in Muna Regency is generally considered to be quite developed, indicated by the large number of people involved in this industry activity. However, the high cost incurred in the process of industry becomes a factor inhibiting the development of this product. Although demand is quite high both from end-consumers and other industrial consumers, but the high cost of causing margin received by industry players is lacking. The cost in question is starting from the cost of activities of raw material acquisition, production, until marketing activities. This resulted in Seaweed Jelly industrial activities in Muna Regency has not had an impact on improving people's welfare and efforts to eradicate poverty.

Referring to these conditions, it is deemed necessary to develop Seaweed Jelly industrial activities with the expectation that the business margin received by business actors can increase and impact on increasing the value added and welfare of society in a sustainable manner so that poverty eradication efforts can be achieved. These efforts can be achieved through the development value-chain model of Seaweed Jelly industries that can provide value added, and eliminate activities that do not provide value added and only become activity that triggers the cost, so that development model of Seaweed Jelly industry value chain that compiled in the end will be able to increase the value added so as to impact the welfare of society and poverty alleviation.

The paper aim to developing of Seaweed Jelly industry value chain model that can increase sustainable value added. Detail purpose of this paper are: (1) develop an initial model of the Seaweed Jelly industries value chain; (2) constucting thedevelopment model of Seaweed Jelly industry value chain through the analysis of activities that can increase the sustainable

value added of industry and eliminate the cost driver activities; and (3)calculates the amount of value added projectionthat can be accepted from the Seaweed Jelly industry value chain by the development model.

METHODS OF RESEARCH

This research carried out in coastal area of Muna Regency of Southeast Sulawesi Province, that is: in District of Duruka which focused on Lasunapa Village, Gonebalano Village, and Lagasa Village. Determination of research area refers to the results of research that has been done by previous researchers.

Informants in this study represent 4 groups, namely: 1). Businessmen; 2). Local government; 3). Business people; collectors, traders, and industries; 4). Supporting Institutions; capital institutions, and others.

The analysis technique used in this research is divided into 2 (two) stages.

The first stage. Arrange Development Model of Seaweed Jelly industry value chain. The development of the Seaweed Jelly industries value chain model will be done by adopting the initial model of seaweed value chain that has been produced by researchers in 2014. Development is done on all primary activities of value chain that is; activity of raw material acquisition, production process, distribution of finished goods, marketing and sales, and activity of value chain support, that is; infrastructure, human resources, technology, and procurement. Each value chain activity, both primary and supporting will be analyzed by Activity Based Costing (ABC) and Cost Driver method to generate value chain activity that can increase value added. The ABC analysis and cost drivers for each value chain activity are carried out through the following phasing mechanisms: (1) Present real situation problems, (2) Inventory of each primary activity and support of the value chain, including institutional and social systems, (3) (4) Improving and resolving existing problems through system identification, model innovation, improvement suggestions at various stages of testing, (5) distinguishing between development models and real-life situations, (6) changing the desires in a way systematic, and (7) action / implementation activities to change the situation become more productive to gain value added. The whole mechanism of staging the value chain activities will be conducted using focus group discussion (FGD) techniques by involving all existing informants simultaneously to produce a value chain development model that can increase value added. In the execution of FGD, all informants will identify activities that can provide economic value added, and the activity that triggers the cost for the next will be the basis for establishing an seaweed jelly business value chain development model.

The second stage. After the development model of the value chain is composed, then first will be done HAYAMI analysis on the development model. HAYAMI analysis is conducted to find out the amount of projected increase in business margin and the value added obtained from the model of development value chain of Seaweed Jelly industries that have been compiled. If the calculation result of HAYAMI analysis shows that the business margin projection and the value added obtained from the value chain development model are greater than the previous business and value added margin, the Seaweed Jelly industrial value chain development model is ready to be implemented / implemented.

RESULTS OF STUDY

The first step taken in this research in order to development the Seaweed Jelly industry value chain model is to formulate an initial model of the Seaweed Jelly industry value chain that is in accordance with the conditions and the real characteristics that occur in the field today. Preparation of this initial model is done by participatory appraisal technique that is by doing deep understanding. Preparation of this initial model is done by participatory appraisal technique that is by doing deep understanding about the characteristics of value chain of Seaweed Jelly industries in the research object. The concept of value chain used as a reference in this study is the concept of Value Chain Porter, namely the concept of value

chain that uses 3 (three) main activities namely; (1) raw material chain; (2) the production chain; and (3) the marketing chain.

The Initial raw material chain model is a model in which raw material supply flows are obtained for seaweed jelly production activities. In general, the initial model of raw material chain of the Seaweed Jelly industry in Lasunapa Village, Lagasa, and Gonebalano, is as follows.

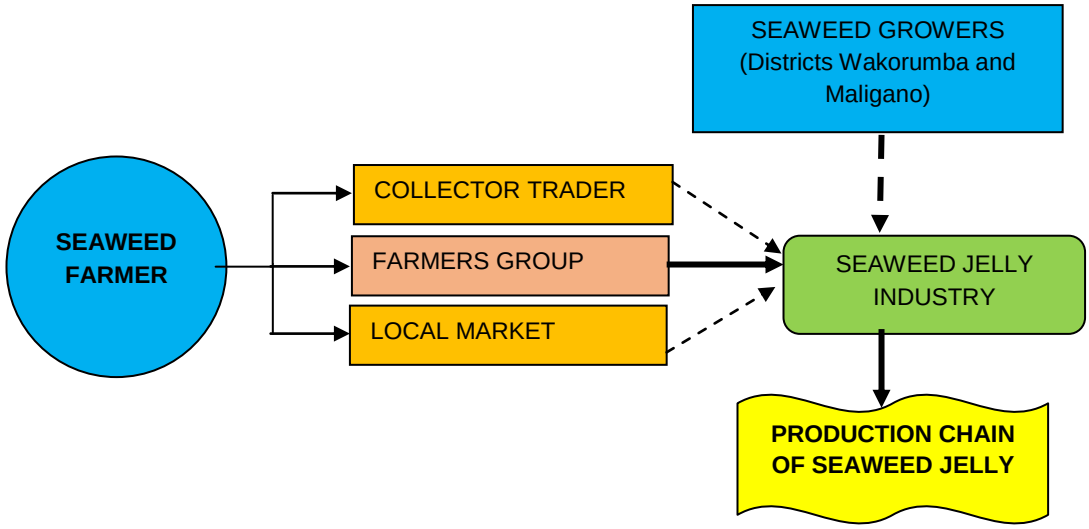

Figure 1 – The Initial Model of Raw Material Chain of the Seaweed Jelly Industry

Based on Figure 1 it can be seen that the raw material chain initial model of the Seaweed Jelly industry in Lasunapa Village, Lagasa, and Gonebalano is sourced from 2 (two) locations, namely; (1) from within the village itself, and (2) from outside the village. Specifically for raw materials originating from within the village, the supply of raw materials for the Seaweed Jelly industry in 3 (three) locations, the timber industry players do not directly buy to the seaweed farmers located in their village, but there are 3 (three) alternative place of purchase of raw materials, namely:

Seaweed Farmer Group. Seaweed Farmer Group (SFG) which is meant here is SFG located in the Village Lasunapa, Lagasa, and Gonebalano. The purchase of raw materials at SFG is a top priority in the supply of raw materials. This is done with the consideration that the price of seaweed at SFG is quite cheap ie; Rp. 6,000, - / kg. The price level of seaweed that is quite cheap is caused because there is no difference between the price of seaweed at the level of farmers with seaweed that is in SFG. SFG only serves to maintain price stability and seaweed production level. Conditions that often occur in the study site is sometimes a decrease in production caused by reduced demand for seaweed, which affects the fall in seaweed prices.

Collector Trader. The seaweed farmers in Lasunapa, Lagasa, and Gonebalano villages do not sell their seaweed all the way to SFG. There are some seaweed farmers who sell their seaweed to the collectortrader. This is because there are separate agreements between the seaweed farmers and the collectortrader. The agreement in question is usually the seaweed farmers have taken a "down payment" of seaweed sales before harvest, so the level of dependence of seaweed farmers to collectors is very high. If the seaweed jelly industry supplies seaweed as the main raw material of their business from collectortrader, then the price given by the collectortraderis Rp. 7,000, - / kg. Information obtained from the data collection shows that the purchase of raw materials from collectortraderis only done when the supply of seaweed from SFG is not sufficient.

Local Market. The local market in question is a market where seaweed is sold by surrounding communities and concentrated in one particular location. The supply of raw materials from the Local Market is only done if the supply from SFG and collectortraderis not

sufficient for the raw material needs of the business. This is done on the grounds that the prices that apply to seaweed at this source is quite high ie; Rp. 7.500 / kg

Apart from the three raw material supply sources previously described, the seaweed jelly industries in Lasunapa, Lagasa and Gonebalano villages also sometimes supply raw materials (seaweed) from outside their village. The location of the alternative supply is; Wakorumba Sub-district in North Buton Regency, and Maligano District in Muna Regency. If viewed from the aspect of price, then the price of seaweed in this area is quite cheap namely; Rp. 5,500, - / kg. However, the location of the two locations located on the opposite island that rely solely on motorboat transportation, so that the seaweed jelly industry players make the location the last alternative for the supply of raw materials. This is also due to the fact that the seaweed jelly industry prefer to buy seaweed that comes from the production of their own village.

The initial models of the seaweed jelly industrial production chain are models in which the process and production stages are described based on activities that trigger the emergence of costs. The process of creating value added business based on the production chain is derived from the elemination of the activities that produce the triggers of cost. Based on the results of data collection, the initial models of the seaweed jelly industry production chain are as follows:

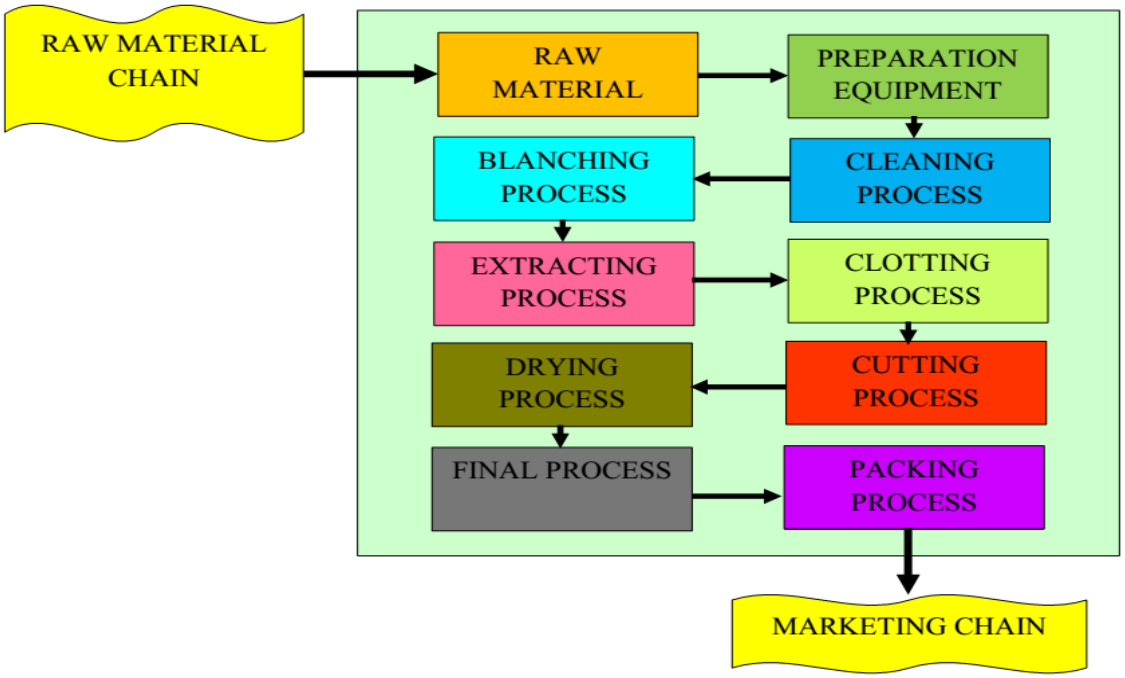

Figure 2 – The Initial Model Of Production Chain Of The Seaweed Jelly Industry

According to Figure 2, the stage of seaweed jelly production process are:

Stage of Setting Up of Equipment: at this stage, all the equipment required in the seaweed jelly production process must be ready for use. The type of equipment needed is among others: (a) thermometer; (b) hot plate stirrer; (c) pH paper; (d) Erlenmeyer; (e) scales; (f) the gauze cloth; (g) plastic tub; (h) bottles of duran; (i) measuring cups; (j) pipettes and measuring pipettes; (k) freezer; (l) stirrer; (m) knife; (n) oven, and (o) blender. At this stage, it is assumed that all required equipment falls into the category of fixed assets, so it is not included in the component to form the production cost, in the sense that at this stage, does not trigger the production cost.

Cleaning Stage. In this stage, there are (3) three treatments, namely: soaking process, washing process, and sorting process. Seaweed is soaked in clean water 2-3 hours. Seaweed disortasi with kneading to separate the dirt and then rinsed clean sampi using

water. In this stage it also does not raise the cost of production with the assumption that the material used in this stage (water) is not purchased but is obtained freely.

Blanching Stage (Neutralize Poison). The bleaching process is done by soaking the seaweed in a solution of chlorine as much as 2.5 grams between 5-10 minutes, then then seaweed washed, rinsed with clean water, drained and dried in the hot sun to dry. At the time of drying will occur the process of bleaching so that the color of seaweed to be whiter. The next process seaweed is soaked with clean water for one night, then soaked again by using lime extraction of 400 s / d 500 ml for approximately 15 minutes and then washed again with water and immediately dried. At this stage of production, the cost incurred is the cost for the purchase of kaputit as much as 2.5 grams of Rp. 150, -, and the cost of purchasing 400 ml lime extraction ie; Rp. 20.000, -.

Extraction Stage. At this stage, extraction is done in 2 (two) stages, namely: First Stage; (a) the first boiling is carried out with boiling water of 20,000 s / d 25,000 ml of water for 2 hours at a temperature of 85 - 95 degrees calcius with pH 6-7); (b) the boiling result is filtered by using a filter cloth and the dregs are extracted again for 1 hour with boiling water of 5,000 s / d 10,000 ml then filtered back and the waste is thrown away; (c) the result of the filter still mixing with the dirt and then deposited, its function to separate the remaining fine debris from the previous filtration process. Phase Two; (a) extraction of seaweed mixed with boiling water of 10,000 s / d 15,000 ml; (b) the extraction is performed approximately 2 hours with temperature 80-85 degrees calcius and pH 4.5. In order to obtain the results of seaweed extraction with the appropriate pH, then added 150 grams of NaOH and Acetic Acid as much as 5 grams. The boiling result is then and precipitated. Precipitation will separate the remaining debris. At this stage, the required cost is Rp. 4,000, - for the purchase of 150 grams of NaOH and Rp. 250, - for the purchase of Acetic Acid.

Clotting Stage. After the extraction process, it is then performed by adding a thickening material in the form of KCL with heated for 15 minutes and continuously stirring. For the extraction of seaweed used materials KCL spindle as much as 3 grams. The result is poured in the printer, left until the seaweed jelly stands hard enough. The cost used in this stage is the cost for the purchase of KCL as much as 3 grams, namely; Rp. 250, -.

Cutting and Seaweed Jelly Presses Stage. The seaweed jelly obtained from the yield is then thinly sliced with cutting tools, the thickness adjusted. Each slice wrapped in a cloth and then arranged in a pressing tool, then pressed to remove water from the seaweed jelly. The pressing is stopped if the seaweed jelly sheet is thin enough. If presumably not thin enough, pressing can be continued by adding the load gradually. At this stage there is no activity that raises the cost.

Drying Stage. The gel sheets obtained from the pressing process are then dried in the hot sun. Periodic reversals are made to make the seaweed jelly sheets completely dry. At this stage, there is no activity that triggers the cost.

Smoothing Stage (Final Stage). Since the end product of this venture is seaweed jelly in powder form, the next step is the process of softening the seaweed jelly of dry sheets. This process is done using a smoothing tool. The polished seaweed jelly products are first sorted to see which ones have good and inadequate quality. At this stage, there is no activity that raises costs.

Packaging Stage. At this stage, the powder seaweed jelly product is inserted into plastic packaging and labeled. The net content of packed powdered seaweed jelly product is 250 grams. Costs incurred for this stage are the cost of plastic materials and simple packaging labels, which is assumed to be Rp. 100, -.

Costs identified in relation to such seaweed jelly activities are not included in the costs incurred for fuel and labor. The imposition of the two cost components is not included in the cost listed in the sequence of the production process with the consideration that the cost component is collective and thus difficult to separate according to the number of units of production. To that end, the three components of the cost will be calculated based on the cost of the two components released as a whole. The amount of both components of the cost is issued for a one-time production process (assuming 1 kg of seaweed for one production), as follow:

Labor Cost. The labor used for one seaweed jelly production process is 4 people, with average salary per person can be calculated as follows: (a) monthly labor salary is Rp. 2.000.000, - / person; (b) in each month, the average production amount is 4 times, so the salary per work per production is Rp.500.000, - / person; (c) once the production, the amount of seaweed used is 100 kg, so that the labor salary obtained per 1 kg of seaweed production is Rp. 5.000, - / person; (d) so that the total labor cost for 4 workers is Rp. 20.000, - per one time production (1 kg of seaweed).

Fuel Costs. The process of producing seaweed into seaweed jelly products is a production process that is full of extraction loads, thus requiring sufficient fuel for the process. For the calculation of fuel costs, used benchmark 3 kg LPG gas fuel tube. One LPG gas tube is usually used for one production process (100 kg of seaweed). Based on the data, then assuming LPG gas price of 3 kg tube is Rp. 20.000, - / tube, hence can be obtained amount of fuel cost which used for once production 1 kg of seaweed to become seaweed jellypowder product is Rp. 20.000, - / 100 kg = Rp. 200, - / kg.

The Initial Model of Production Chain of The Seaweed Jelly Industryis a model in which marketing activities are outlined based on activities that trigger costs. The marketing chain is a series of follow-up activities in value chain activities directed to the process of attributing finished products to consumers, both individual consumers, and industrial consumers. The initial model of marketing chain of the seaweed jellyindustry is as follows:

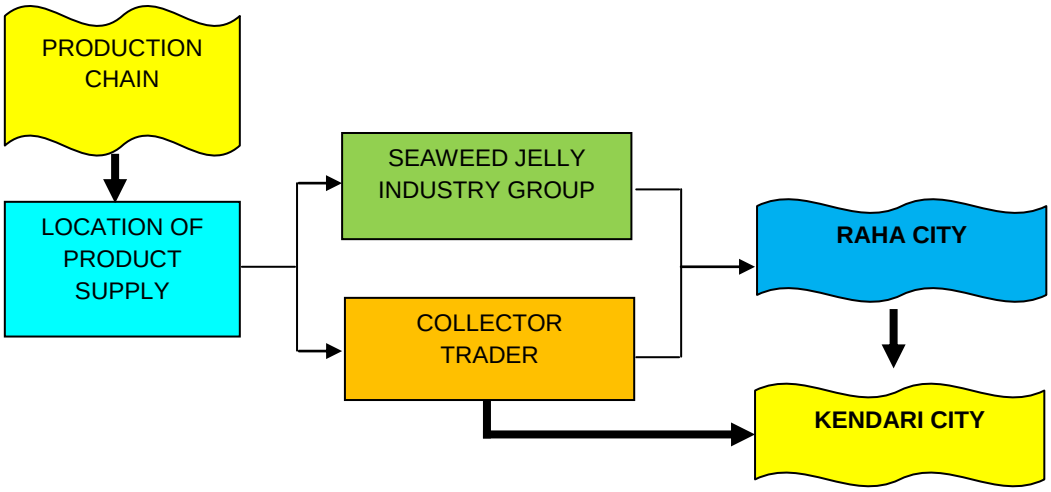

Figure 3 – The Initial Model of Marketing Chain of the Seaweed Jelly Industry

In the initial model of marketing chain of the seaweed jelly industry in Lasunapa Village, Lagasa, and Gonebalano, we can know that after passing through the production process as described in the initial model of the production chain, ready-to-sell seaweed jellyproducts are shipped to the finished product shelter in the village each. Based on the results of data collection in the field, it was found that all ready-to-sell seaweed jellyproducts were then dropped to a shelter location of approximately 1 - 1.5 km from the production site. This delivery process is done by using a motor vehicle with an average wage of Rp. 15.000, - once transport (once transport can reach 25 kg of seaweed jellyproduct ready to sell), so if calculated of transportation cost perunit, hence obtained transportation cost at this stage is equal to Rp. 600, - / Kg. The price applies for every 250 grams of powdered seaweed jelly in this location is Rp. 60.000, -.

After being in the shelter location in each village, the next seaweed jelly product ready to sell will lead to 2 different marketing locations, namely; (a) seaweed jellyindustry group located in Lagasa Village, and (b) collector trader. The delivery process from the shelter location to these two locations is entirely in the responsibility of the purchaser (group of joint ventures and collector trader). The purchase price of industry group on ready-to-sell

seaweed jelly product at the shelter location is Rp. 60.000, - / 250 gram, while the purchase price from the collecting party is approximately Rp. 55.000, - / 250 gram.

Furthermore, for the manager of the industry group of seaweed jelly products located in the village of Lagasa, then sell this seaweed jelly product to a large scale trader located in the city of Raha with the price of Rp. 65.000, - / 250 gram.

In the case of delivery of products from a joint venture group to a wholesaler in Raha City, the joint industry group does not make any physical changes or product packaging. The big traders in Raha City subsequently redesigned the physical and packaging of the product and then resold the seaweed jelly product with the target of marketing area is Kendari City with the price of Rp. 70.000, - / 250 gram.

On the other hand, collector traders who picked up ready-to-sell seaweed jelly products from shelter locations for Rp. 55.000, - / 250 gram, then sell back the seaweed jelly product (without changing the physical shape and packaging) to the big traders who are in the city of Raha with the price of Rp. 60.000, - / 250 gram and also sell to the area of Kendari City with the price of Rp. 65.000, - / 250 gram.

Based on the description of the value chain of seaweed jelly industry in the location of the study, then by using the method HAYAMI, then further can be calculated the amount of value added received by the agents of seaweed jelly industry are as follows:

Table 1 – Calculation Of Value Chain Initial Model Of The Seaweed Jelly Industry (Standard Calculation Once Produced = 1 Kg)

NO	VARIABLES	VALUE
OUTPUT, INPUT, AND PRICE		
1	OUTPUT (Kg / Production)	0,25 Kg
2	RAW MATERIAL (Kg / Production)	1 Kg
3	LABOR (People / Production)	4 Labor
4	CONVERSION FACTORS	0,25
5	LABOR COOPERATION	4
6	OUTPUT PRICE	Rp. 240.000,-/Kg
7	WAGES AVERAGE TK (Rp / Production)	Rp. 5.000,-
REVENUES AND BENEFITS, RAW MATERIAL PRICES		
8	RAW MATERIAL PRICES, OUTPUT VALUE	Rp. 6.000,-
9	OTHER INPUT DONATIONS	Rp. 24.950,-
10	OUTPUT VALUE	Rp. 60.000,-/Prod
11	A. VALUE ADDED	Rp. 29.050,-/Prod
	B. ADDITIONAL RATIO RATIO	48,41%
12	A.EMPLOYEE BENEFITS	Rp. 20.000,-
	B. LABOR PARTS	68,85%
13	A. BENEFITS	Rp. 9.050,-
	B. BENEFITS OF PROFITS	31,15%
REVERSE THE OWNER OF PRODUCTION FACTOR		
14	MARGIN BENEFITS	Rp. 54.000,-/Prod
	A. BENEFITS	16,76%
	B. LABOR	37,04%
	C.OTHER INPUTS	46,20%

Source: Calculation Result With HAYAMI Method For Initial Model.

Based on the calculation of the value added from the value chain initial model of seaweed jelly industry using HAYAMI method, it can be seen that the profits per kilogram of seaweed processing into seaweed jelly is Rp. 9,050, - with a profit rate of 31.15%. This indicates that the seaweed jelly industry activity in the coastal area of Muna Regency has been able to provide positive value added for business actors although the level of profit earned is still relatively small. The underlying factor causing the low level of margin obtained by business actors is the high intervention of seaweed collectors which is the main raw material in seaweed jelly production process especially in influencing the level of seaweed price around the business location.

Based on the initial model of the value chain of seaweed jelly industry that previously, then further developmentwill be made to the model. The developmentprocess of value chain initial models of the seaweed jelly industry will be done using the concept of activity-based costing (ABC).

The ABC (Activity Based Costing) method is another alternative to traditional financing methods over overhead costs. This concept arises because it is considered the traditional method is not appropriate in allocating overhead costs to production only by relying on the basis of direct materials, direct wages or production units only. According to this concept such imposition is unfair and will be able to provide misinformation in providing information about production costs, therefore ABC offers that the overhead charge is also based on a proportional percentage to other costs or to the product. But to the activities undertaken to produce the goods, the concern is the element that drives the cost (cost driver) not the product. If this concept is applied then the decision taken will be more appropriate and the business does not lose just because of unit cost error.

ABC (Activity-Based Costing) is a system of cost accumulation and charging cost to the product by using various cost driver, done by tracing cost from activity and then tracing cost from activity to product. The benefits of implementing ABC are:

- Determine the cost of products more accurately, especially to eliminate cross-subsidy so that there is no more cost of over-costing and the cost of other product type is too low (under costing);
- Improve decision making. By using ABC not only provides more accurate information about product cost, but also provides information for business actors about the activities that lead to the cost, especially indirect costs, which is important for management in making decisions either about the product or in managing the activities -activity so as to improve the efficiency and effectiveness of the business;
- Enhance control over overhead. Overhead costs caused by activities that occur in the company. ABC system facilitates business actors in controlling activities that cause the overhead.

The stages in the application of ABC are as follows:

- Identify activities. The identification of activities requires a listing of the types of jobs within the company related to the production process;
- Charge the activities. Each time an activity is set, the cost of implementing the activity is determined;
- Specify the activity driver. The next step is to determine the activity driver for each activity that is the controlling factor of the activities;
- Determine tariff. In determining this rate, the total cost of each activity is divided by the total activity of the driver used for the activity;
- Charging the product. The next step is to multiply the rate obtained for each activity with the driver activity consumed by each type of product produced and then divide by the number of units produced for each product.

The development model of raw material chain of the seaweed jelly industry is a model developed based on the initial model of the raw material chain that has been compiled before. Based on the results of the analysis, we obtained the Development Model of Raw Materials Chain of The Seaweed jellyindustry in Lasunapa, Lagasa and Gonebalano Villages (Figure 4).

Based on the results of activity-based costing (ABC) and focus group discussion, the development model of raw material chain of the seaweed jelly industry as shown in Figure 4. Some of the things that become the development of the initial model of raw material chain are:

- Supply of raw materials in the initial model supplied through seaweed farming groups at a price of Rp. 6,000, - / kg, while in the raw material chain development model, the supply will be modified by adding: (1) regional regulatory factors. The regional regulation in question is that the government should establish a regulation that at the farm group level, the price of seaweed that applies to the industry is adjusted to the

prevailing price at the farm level, ie; Rp. 5,500, - / kg. This may be based on the consideration that if the seaweed jelly industry in this area is sufficiently developed, the positive impact that the region can gain is the increased absorptive capacity of the workforce and can have an impact on reducing poverty;

- Industry actors should think about establishing partnerships with some of the main raw material (seaweed) areas such as; District Wakorumba, District Maligano, and District Tobea, namely; sub-districts with an average seaweed floor price of Rp. 5000, - to 5,500, - / kg, so that the seaweed jelly industry players can reduce production costs through reduction of the cost of purchasing the main raw materials. However, this can only be done when there is support from the local government in the improvement of supporting facilities and infrastructure such as; means of transportation to facilitate the flow of raw material mobility from the poles of raw materials to the poles of production.

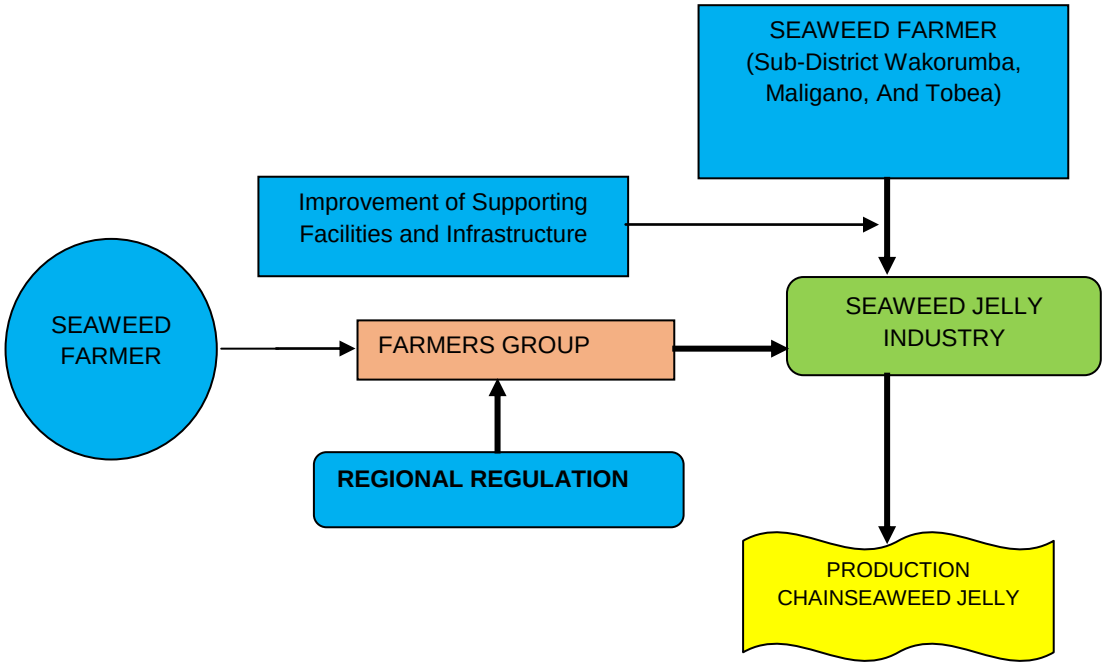

Figure 4 – The Development Model of Raw Material Chain of the Seaweed Jelly Industry

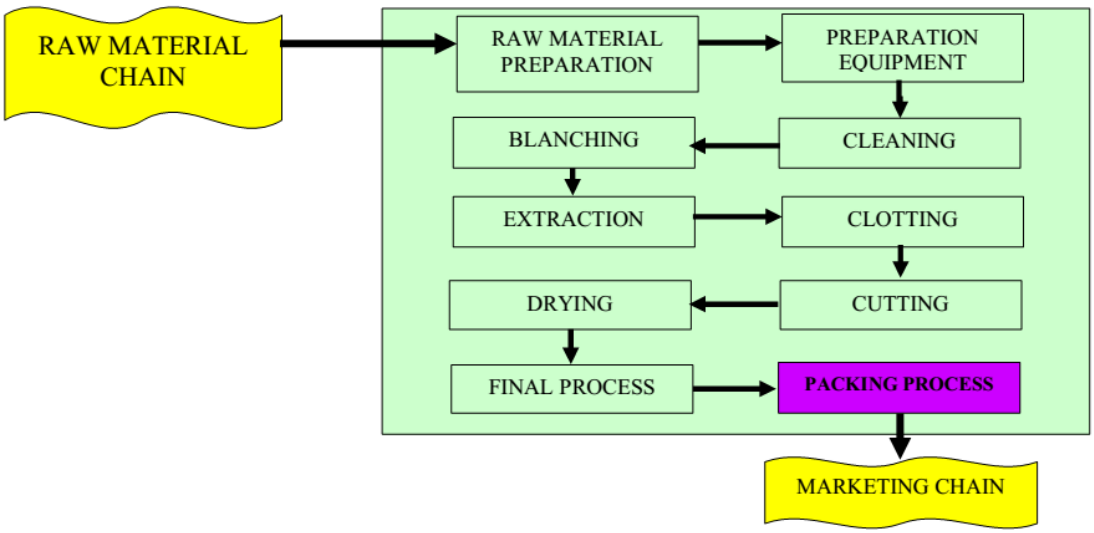

Figure 5 – The Development Model of Production Chain of the Seaweed Jelly Industry

The Development Model of Raw Material Chain of The Seaweed Jelly Industryis a model developed based on the initial model of the production chain that has been compiled before. The developmentof this production chain model is done by using activity based costing (ABC) and focus group discussion (FGD). Based on the results of the analysis,The Development Model of Raw Material Chain of The Seaweed Jelly Industryin the Villages of Lasunapa, Lagasa and Gonebalano is as in Figure 5.

Based on the results of ABC analysis and information obtained from the results of FGD implementation shows that the production stages contained in the initial model of the production chain is the stages that have been standard, so the process of modification of this initial model to become development model that will be done only focused on the packing process. In the packing process that has been done by the seaweed jelly industry is packing is only done by using simple plastic and then given a label of simple paper that inscribed the name of the product, price and production address.

Based on the results of ABC analysis and FGD implementation, such a process is seen as a simple process that gives less value to the product, so the step to be taken is to give something different to the packaging. Something different is meant here is to be designed a design or form of packaging that is expected to provide a special attraction for the product. In the concept of conventional marketing, attractive product design and model packaging will have an impact on increasing consumer interest in the products offered. However, the consequences of creating attractive packaging designs will have an impact on increasing production costs. On the other hand, the creation of attractive and hygienic packaging designs is also able to increase the selling price. Based on these conditions, the production chain development model in this research will be focused on the modification of packing and packaging process so that it is expected to increase the value added of the product.

Simulations of the process modification process for seaweed jelly products at the site of this study, will be carried out as follows; (1) the process of creating attractive and hygienic packaging designs, will have an impact on increasing costs. The amount of projected increase in costs that will occur, with reference to the forms of seaweed jelly packaging that is widely used in other areas, such as in the area of Kendari City, is approximately approximately Rp. 2.000, - s / d Rp. 2,500, - / unit, so in this chain of production development model, the packing cost changed from Rp. 100, - to Rp. 2,000, - / unit; (2) the impact of hygienic and more attractive packaging changes is to increase product prices. Projected price increase due to change of seaweed jelly packaging design in this research will refer to the amount of selling price in order to with similar packaging located in Raha City and Kendari City, which is Rp. 65.000, - s.d 70.000, - / 250 gram, so if the amount of this price is applied, then there will be an increase in price of Rp. 5,000, - resulting from an increase in cost of Rp. 1.900, -.

The Development Model of Production Chain of The Seaweed Jelly Industryis a model developed based on the initial marketing chain model that has been compiled before. The innovation of this chain marketing model is done by using activity based costing (ABC) analysis and focus group discussion (FGD) result. Based on the results of the analysis, we obtained the development model of marketing chain of the seaweed jellyindustry in Lasunapa Village, Lagasa, and Gonebalano, as follows:

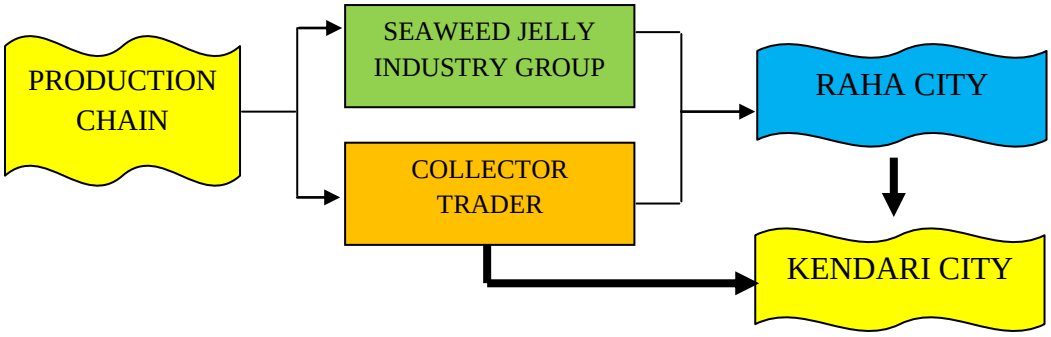

Figure 6 – The Development Model of Marketing Chain of the Seaweed Jelly Industry

Table 2 – Projection Of Increasing Value Added Of The Development Model Of Seaweed Jelly Industry Value Chain (Standard Calculation Once Produced = 1 Kg)

NO	VARIABLE	VALUE
OUTPUT, INPUT, AND PRICE		
1	OUTPUT (Kg / Production)	0,25 Kg
2	RAW MATERIAL (Kg / Production)	1 Kg
3	LABOR (People / Production)	4 labor
4	CONVERSION FACTORS	0,25
5	LABOR COOPERATION	4
6	OUTPUT PRICE	Rp. 260.000,-/kg
7	WAGES AVERAGE TK (Rp / Production)	Rp. 5.000,-
REVENUES AND BENEFITS		
8	RAW MATERIAL PRICES	Rp. 5.500,-
9	OTHER INPUT DONATIONS	Rp. 26.250,-
10	OUTPUT VALUE	Rp. 65.000,-/prod
11	A. VALUE ADDED	Rp. 33.250,-/prod
	B. ADDITIONAL RATIO RATIO	51,15%
12	A.EMPLOYEE BENEFITS	Rp. 20.000,-
	B. LABOR PARTS	60,15%
13	A. BENEFITS	Rp. 13.250,-
	B. BENEFITS OF PROFITS	39,85%
REVERSE THE OWNER OF THE OWNER OF THE PRODUCTION FACTOR		
14	MARGIN BENEFITS	Rp. 59.500,-/prod
	A. BENEFITS	22,27%
	B. LABOR	33,61%
	C.OTHER INPUTS	44,12%

Source: Calculation Results With HAYAMI Method for Development Model.

Table 3 – Comparison Of Projection Of Increasing Value Added Between Initian Model and Development Models (Standard Calculation Once Produced = 1 Kg)

NO	VARIABLE	VALUE	
		Initial Model	Development Model
OUTPUT, INPUT, AND PRICE			
1	OUTPUT (Kg / Production)	0,25 Kg	0,25 Kg
2	RAW MATERIAL (Kg / Production)	1 Kg	1 Kg
3	LABOR (People / Production)	4 person	4 person
4	CONVERSION FACTORS	0,25	0,25
5	LABOR COOPERATION	4	4
6	OUTPUT PRICE	Rp. 240.000,-/kg	Rp. 260.000,-/kg
7	WAGES AVERAGE TK (Rp / Production)	Rp. 5.000,-	Rp. 5.000,-
REVENUES AND BENEFITS			
8	RAW MATERIAL PRICES	Rp. 6.000,-	Rp. 5.500,-
9	OTHER INPUT DONATIONS	Rp. 24.950,-	Rp. 26.250,-
10	OUTPUT VALUE	Rp. 60.000,-/prod	Rp. 65.000,-/prod
11	A. VALUE ADDED	Rp. 29.050,-/prod	Rp. 33.250,-/prod
	B. ADDITIONAL RATIO RATIO	48,41%	51,15%
12	A.EMPLOYEE BENEFITS	Rp. 20.000,-	Rp. 20.000,-
	B. LABOR PARTS	68,85%	60,15%
13	A. BENEFITS	Rp. 9.050,-	Rp. 13.250,-
	B. BENEFITS OF PROFITS	31,15%	39,85%
REVERSE THE OWNER OF THE OWNER OF THE PRODUCTION			
14	MARGIN BENEFITS	Rp. 54.000,-/prod	Rp. 59.500,-/prod
	A. BENEFITS	16,76%	22,27%
	B. LABOR	37,04%	33,61%
	C.OTHER INPUTS	46,20%	44,12%

Source: Calculation Results By HAYAMI Method for Development Model.

Based on the results of ABC analysis and FGD implementation shows that the existence of the location of the finished product shelter is one of the activities that does not give value added and only become the cost driver for the business so that in the simulation of marketing chain model, the existence of this shelter location is eliminated. The collecting

traders and groups of joint seaweed jelly at the research site are expected to come directly to the production site to make purchases of ready-to-sell seaweed jelly products. If this is done then it can be projected the potential cost reduction is Rp. 600, - / Kg seaweed jelly ready to sell.

In addition, in order to facilitate the flow of distribution channels from the production site, it is expected that the government's role in facilitating the flow of product mobility from the production location to the industrial consumers in the city of Raha or Kendari. The form of government support that is expected to anticipate this is by improving the availability of facilities and infrastructure of regional transportation to expedite it, so if this is done, then there is a projection of the potential increase in selling prices at the industrial level to Rp. 65.000, - / 250 gram.

After the development model of marketing ncain of the seaweed jelly industry, it will then calculate the amount of projected increase of value added that can be accepted by the seaweed jelly industry players using HAYAMI method, as follows in Table 2.

Furthermore, in order to provide a clear picture of the value added changes between the initial model and the development model, a projected value added comparison will be added as follows in Table 3.

Based on the result of comparison of acquisition of value added between initial model and development model, it can be seen that:

- There is an increase of product value added from Rp. 29,050, - / kg on the initial model, to Rp. 33,250, - / kg on the Development Model resulting in an increase in profit from Rp. 9,050, - / kg on the initial model to Rp. 13,250, - / kg on the development model;
- Increased profit margins from Rp. 54.000, - / kg on the initial model to Rp. 59,500, - / kg on the development model

CONCLUSION AND RECOMMENDATIONS

Based on the results of the research that has been described in the previous section, then some things that can be concluded are:

- The development model of seaweed jelly industry value chain is expected to get intervention from the government in the form of regulation and improvement of transportation infrastructure facility to reach the poles of cheaper raw materials.
- The development model of production chain of the seaweed jellyindustry leads to the development of more attractive and hygienic packaging so it is expected that there will be an increase in price at the level of seaweed jelly industry.
- The marketing chain Development Model of the seaweed jelly industry aims to cut the distribution channel from the direct production house to the group of joint venture seaweed jelly without having to go through the shelter as it is only a cost driver activity.
- There was an increase in the seaweed jelly industry's value added from the initial model of the value chain to the development model of the value chain.

As for some things that can be suggested from the results of this study are:

- There is a need for special attention from the local government of Muna Regency in determining the regulation in terms of intervention policy for raw material supply and improvement of supporting facilities and infrastructures;
- There is a need for some forms of training for seaweed jelly entrepreneurs especially in terms of how to design attractive and hygienic packaging;
- Necessary existence of partner institutions for seaweed jelly industry especially partners related to capital and production technique;
- There is a need for improvement of supporting facilities and infrastructure to support the development of seaweed jellyindustry in coastal area of Muna Regency.

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