# STUDY OF SEAWEED (EUCHEUMA COTTONI) MARKETING IN MAKASSAR INDUSTRIAL AREA (PT. KIMA) AS SEAWEED MARKETING CENTER IN EASTERN INDONESIA

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**Abstract -** Seaweed is an export commodity whose economic value is quite high and provides many benefits and prosperity to coastal communities, especially in South Sulawesi Province, which is the largest producer in Indonesia. In addition Makassar is a marketing center of seaweed in Eastern Indonesia, where there is Industrial Area Makassar (PT KIMA) there are many seaweed exporter companies. The purpose of this study is 1). To study the shape of marketing channels from various sources of seaweed in eastern Indonesia to the industrial area of Makassar. 2). To analyze the amount of margin, profit, and level of efficiency gained by each marketing agency. 3) To examine the pattern of intimacy between seaweed marketing institute with the Company. Location of this Research; at KawasaIndustri Makassar, at PT. Bantimurung Indah Kab.Maros, Port of Parepare City and the Port in Makassar. This research period is for 6 (six) months, that is April-September 2017. Type of Research is survey with Research Approach is approach of goods where this approach trace seaweed to Industrial Area of Makassar and Surrounding Cluster random sampling sampling technique, by determining informants from the company (Director, raw material procurement department, marketing department, production department, export department, and company worker) and collecting salesman informant. Data collection techniques used observation and in-depth interviews. The results of this study indicate that seaweed in Makassar Industrial Area is not only from South Sulawesi but originated from eastern Indonesia, such as from Kalimantan, Maluku and Papua, the marketing channel of the company consists of the first level marketing channel and the second level marketing channel , the average margin on two companies is IDR 2,750 / kg. The average marketing profit received by collecting merchants is IDR 8. 968, - / kg, while the average profit of the company is IDR 809.375, - / kg. There is marketing efficiency in two companies. The partnership scheme used is subcontract partnership pattern, general trading partnership pattern, while in other 2 companies the highest margin average is in the Exporter institution of IDR. 3,500 - 5,000 and the highest margin value is in the collecting merchant institution of IDR. 500 - 1,000.

**Keywords** - Marketing, margin, profit, efficiency, Partnership Pattern, seaweed

## I. INTRODUCTION

### 1.1. BACKGROUND

Seaweed is one of the main commodities of aquaculture, which is a mainstay in increasing production, regional economy, and coastal community welfare. Total national seaweed production is now experiencing a significant increase. According to data from the Ministry of Marine Affairs and Fisheries, national seaweed production in 2014 reached 10.2 million tons or more than triple from seaweed production in 2010 which was around 3.9 tons, an annual average increase of 27, 71%. (Ministry of Marine Affairs and Fisheries, 2014).

One of the potential seaweed development centers in Indonesia is South Sulawesi. In addition to the predominantly agricultural food production sector, seaweed cultivation has become one of the superior commodities in the fishery revitalization program therefore South Sulawesi is the largest seaweed producer in Indonesia. The development of seaweed cultivation in South Sulawesi provides a promising prospect. The length of its coastline reaches 1,937 Km. South Sulawesi's marine aquaculture reaches 193,700 ha and about 10% of which is used for seaweed development, while pond cultivation area for seaweed cultivation is around 32,000 Ha. Types of high-value commercial seaweed cultivated in South Sulawesi are Euchemacottonii (sea cultivation) and Gracillariasp (aquaculture).

There are several considerations and advantages of seaweed, including: big opportunity of export market, relatively stable price, no limit quota of seaweed for trading; simple cultivation technology, easy to master: the short cycle of cultivation, so it quickly provides benefits; relatively small capital needs, an irreplaceable commodity, because there is no synthesis product, seaweed cultivation is categorized as labor-intensive business, so it can employ labors. Demand for seaweed rises with the increase in population and growth of seaweed based industries, and the tendency of the world community to return to natural products. It is estimated, within the next five years, the need for processed seaweed products maintains to increase, based on the export and import inclination of seaweed processed products during the period 2009-2013 (Agam B, Sutinah and Fakhry ME 2016).

The growth of national seaweed production is followed by the rise of volume and value of seaweed exports. The constantly high export volume of Indonesian dried seaweed in comparison with

processing products causes the quite low added value. Therefore, the orientation of seaweed utilization as an export commodity in the form of raw material goes to intermediate product which has high added value. In practice, this orientation change experiences various constraints. The lack of development of seaweed processing industry in Indonesia caused by the lack of guarantee of raw material supply, marketing channels, institutional, economic infrastructure, human resources, and science of technology are factors that also require serious and intensive handling (Agam B, Sutinah, Fakhry ME, 2016).

According to Sutinah et al, 2015; seaweed from Sebatik Island, Nunukan, Tarakan,North Borneo was brought to the industrial area of Makassar with speed boat. Catalonia through the port of Parepare. Most likely the seaweed arrived at PT. KIMA and its surroundings come from various sources in Eastern Indonesia. The existence of a huge market potential in seaweed business is the city of Makassar which is a marketing center of seaweed in Eastern Indonesia.

### 1.2. RESEARCH PURPOSES

The purposes of this study are:

1. To study the forms of marketing channels from various sources of seaweed in eastern Indonesia to the industrial area of Makassar.
2. To analyze the amount of margin, profit, and level of efficiency gained by each marketing agency.
3. To study the partnership pattern between the seaweed marketing institution and the companies in the industrial area of Makassar.

## II. RESEARCH METHODOLOGY

### 2.1. Time and Place of Research

This research was conducted for 6 (six) months from April –to September 2017 at PT. Makassar Industrial Area, PT. Bantimurung Indah Maros, Makassar Port and Parepare Port where the seaweed commodity relies on various sources in Eastern Indonesia.

### 2.2. Type of research

The type of research used is the survey that is a direct research into the field, taking samples from a population using a questionnaire as a research data base (Masrisingarimbun 2006), which describes the price, marketing, marketing margins, profits, efficiency in marketing institutions and partnership patterns

### 2.3. Population and Sample

The population is all seaweed farmers, collecting merchants involved in seaweed marketing in Kalimantan, Maluku, Papua and the Company in Makassar Industrial Zone.The sample is part of the number and characteristics possessed by the population (Sugiono, 2008). In this study used cluster random sampling methods, namely cultivators, collecting merchants and seaweed companies. There are 107 respondents involved in this research.

### 2.4. Data analysis

The method used is as follows:

1. To analyze the channel, we used descriptive analysis explaining every marketing channel from seaweed farmer to exporter company.
2. To analyze the margin, profit, and marketing efficiency, the following formula is used as follows:

• To analyze marketing margin of each marketing institution; MP = Pr - Pf (Sukartawi, 2010)

Where: MP: Marketing Margin

Pr: Prices at consume level (RP / Kg)

Pf: Prices at producer level (RP / Kg)

• To analyze the margins of each model of marketing institutions : Mt = M1 + M2 ..... + Mn

Where: Mt = Marketing margin institution

M1 = Marketing margin of the 1st marketing channel

M2 = Marketing margin of 2nd marketing channel

Mn = Margin marketing of marketing channel to-n

• To analyze the amount of profit, the formula used is:Benefit = TR - TC

Where: Benefit = Profit (Rp)

TR = Total Revenue (Rp)

TC = Total Cost (Rp) (Soekartawi, 2010)

• To calculate the efficiency of marketing:

$EP = \frac{BP \times 100\%}{NP}$ (Soekartawi, 2010)

If: EP <1 = most efficient

EP whose value is 1> = inefficient

Where: EP = Marketing efficiency (%)

BP = Total marketing cost (Rp / Kg)

NP = Total value of marketed product (Rp / Kg)

To analyze partnership system between cultivators, collecting merchants and seaweed companies, we used descriptive analysis.

## III. RESULTS

### 3.1. Seaweed Marketing Channel

Seaweed marketing channel that occurs is an indirect distribution channel characterized by the presence of intermediary traders on each channel type of marketing channel.

There are 2 seaweed marketing channels that are formed, namely:

1. Marketing channel 1: Cultivators – Collecting Merchants - Wholesaler - Companies.
2. Marketing channel 2: Cultivators - Collecting Merchants – Companies.




**Figure 2. Marketing channels**

Furthermore, seaweed from collecting merchants in Kalimantan is marketed to intermediate traders in Makassar through sea transportation delivery so as to the industrial consumers (seaweed processing business or factory) in Makassar, such as PT. Rika RayhanMandiri and PT. Rapid Commerce International.

### 3.2 Seaweed Prices

Seaweed marketing price both selling price and buying price is needed for marketing margin. Price is important for market participants. For the cultivators, the price of its production affects the profit of production to be obtained. For collecting merchants, price and cost differences determine the amount of profit to be earned so that the profit becomes the basis for them to conduct transactions in the market. For industrial companies, the price indicates the type and quality and the amount of goods or services to be obtained. To know the purchase price and average selling price of seaweed at each institution can be seen in the following table:

### 3.3 Margin, Profit, dan Efficiency of Borneo Seaweed

**Table 1. Selling price of seaweed**

| Marketing Channel | Marketing Institution | Price | | Margin (IDR/kg) |
|---|---|---|---|---|
| | | Buying (IDR/kg) | Selling (IDR/kg) | |
| 1 | | - | 7,000 | |
| | Collecting merchants | 7,000 | 7,500 | 500 |
| | Wholesaler | 7,500 | 9,000 | 2,500 |
| | Industry | 9,000 | 15,000 | 6,000 |
| 2 | Cultivators | - | 7,000 | |
| | Collecting merchants | 7,000 | 10,000 | 3,000 |
| | Industry of PT.Abc | 10,000 | 13,500 | 3,500 |

Source: primary data processed, 2017

Based on the table above, the highest margin is 6,000 IDR/Kg and 3,500 IDR/Kg while the lowest margin is 500 IDR/Kg.

**Table 2.The cost of Seaweed Marketing to Companies**

**Marketing 1**

| No | Marketing Institution | Marketing Margin (IDR/kg) | Marketing Cost(IDR/kg) | Speed Boat (IDR) |
|---|---|---|---|---|
| 1 | Cultivators | 0 | 0 | 0 |
| 2 | Collecting merchants | 1,000 | 460 | 54 |
| 3 | Wholesaler | 1,500 | 455 | 1.04 |
| 4 | Industry of PT. Xyz | 3,500 | 3,190 | 310 |
| | Total | | | 954 |

Source: primary data processed, 2017

Based on the table above, the highest cost is 3,190 IDR/Kg while the lowest cost is 455 IDR/Kg.

**Marketing 2**

| No | Marketing Institution | Marketing Margin (IDR/kg) | Marketing Cost (IDR/kg) | Speed Boat (IDR) |
|---|---|---|---|---|
| 1 | Cultivators | 0 | 0 | 0 |
| 2 | Collecting merchants | 1,000 | 460 | 540 |
| 4 | Industry of PT. Xyz | 4,500 | 3,190 | 310 |
| | **Total** | | | **850** |

Source: primary data processed, 2017

Based on the table above, the highest cost is 3,190 IDR/Kg while the lowest cost is 460 IDR/Kg.

**Table 3. Efficiency of seaweed marketing to company**

**Marketing 1**

| No | Marketing Institution | Marketing cost (IDR) | Selling cost(Rp) | EP = BP/HK |
|---|---|---|---|---|
| 1 | Cultivators | 0 | 7,000 | 0 |
| 2 | Collecting merchants | 460 | 8,000 | 0.057 |
| 3 | Wholesaler | 455 | 9,500 | 0,047 |
| 4 | Industry of PT. Xyz | 31.90 | 14,000 | 0.227 |

Source: primary data processed, 2017

Based on the table above, all marketing institutions are efficient because the EP < 1.

**Marketing 2**

| No | Marketing Institution | Marketing cost (IDR) | Selling cost (Rp) | EP = BP/HK |
|---|---|---|---|---|
| 1 | Cultivators | 0 | 7,000 | 0 |
| 2 | Wholesaler | 460 | 8,000 | 0.057 |
| 3 | Industry of PT. Xyz | 31.90 | 14,500 | 0.022 |

Source: primary data processed, 2017

Based on the table above, all marketing institutions are efficient because the EP < 1

**Margin, Profit, and Efficiency of Maluku Seaweed**

**Table 4.Margin Distribution of marketing channel 1**

| No | Marketing Institution | Buying price (IDR /kg) | Selling price (IDR/kg) | Margin (Rp/kg) |
|---|---|---|---|---|
| 1 | Cultivators | 0 | 6,000 | 0 |
| 2 | Collecting merchants | 6,000 | 8,000 | 2,000 |
| 3 | Wholesalers | 8,000 | 10,000 | 2,000 |
| 4 | Industry of (PT. ABc) | 1,000 | 13,000 | 3,000 |

Source: primary data processed, 2017

Above table, it shows that marketing channel 1 involves four marketing institutions namely seaweed farmers, collecting merchants, wholesalers, and industrial companies. Cultivators sell seaweed to collecting merchantss at a price of 6,000 IDR / kg, collecting merchants get a marketing margin of 2,000 IDR / kg by selling to wholesalers for 8,000 IDR/kg. Large traders then earn a margin of 2,000 IDR/kg, after selling seaweed to the industry of PT Abc with the selling price of 10,000 IDR/kg. And industrial companies export seaweed materials for 13,000 IDR / kg with a margin of 3,000 IDR/kg.

**Tabel 5. Marketing institution on marketing channel 1**

| No | Marketing Institution | Selling price (IDR/kg) | Buying price (IDR/Kg ) | Cost (IDR/ kg) | Profit (IDR/ kg) |
|---|---|---|---|---|---|
| 1 | Cultivator | 6,000 | 0 | 0 | 0 |
| 2 | Collecting merchants | 8,000 | 6,000 | 825 | 1,175 |
| 3 | Wholesales | 10,000 | 8,000 | 595 | 1,405 |
| 4 | Industry of PT. Abc | 13,000 | 10,000 | 515 | 2,485 |
| | **Total** | | | **1,935** | **5,065** |

Source: primary data processed, 2017

Based on the table above, the highest profit is 2,485 (IDR/kg) on Industry of PT. Abc while the lowest profit is 1,175 (IDR/kg) on collecting merchants.

**Table 6.Margin Distribution on channel marketing 2**

| No | Marketing institution | Buying price (IDR/kg) | Selling price (IDR/ kg) | Margin (IDR/ kg) |
|---|---|---|---|---|
| 1 | Cultivators | 0 | 7,000 | 0 |
| 2 | Collecting merchants | 7,000 | 10,000 | 3,000 |
| 3 | Industry of (PT. Y) | 10,000 | 12,500 | 2,500 |

Source: primary data processed, 2017

Based on the table above, the highest margin is 3,000 (IDR/kg) on collecting merchants while the lowest margin is2,500 on Industry of (PT. Y).

**Table 7. Profit of marketing institution on marketing channel 2**

| No | Marketing Institution | Selling price (IDR/ kg) | Buying price (IDR/ kg) | Cost (IDR/ kg) | Profit (IDR/ kg) |
|---|---|---|---|---|---|
| 1 | Cultivators | 7,000 | 0 | 0 | 0 |
| 2 | Collecting merchants | 10,000 | 7,000 | 1,090 | 1,910 |
| 3 | Industry of PT. Y | 12,500 | 10,000 | 800 | 1,700 |
| | **Total** | | | **1,890** | **3,610** |

Source: primary data processed, 2017

Based the table above, the highest profit is 1,910 (IDR/kg) on collecting merchants while the lowest profit is 1,700 (IDR/kg).

### 4.4 Partnership Systems

There are three partnership systems that occurred between Kalimantan and Maluku seaweed collecting merchants, and PT. ABC, PT. XYZ and PT-ig., 1.) Main plasma, where farmers and collecting merchants as plasma that produces raw materials of seaweed and the company plays a role as the core. The core company provides production facilities, technical guidance, accommodating and processing, and marketing the products. While the partner group is in charge of meeting the needs of the core company in accordance with agreed terms. 2.) Subcontract partnership pattern is when collecting merchants provide raw materials of wet seaweed purchased and collected from the leader of seaweed cultivator group in each area by providing capital in advance.3) General trading partnership pattern in which the company makes oral agreements to the cultivators to meet the needs of the company without any initial capital or coaching from the company. The partnership pattern undertaken by this company is the same as done by several other companies that exist in the Industrial Area of Makassar, the company ties the cultivators through collecting merchants by giving an advance of Rp. 1,000,000, - and Rp. 2. 000.000, - for the group leader, provided that the seaweed yield must be sold to the collecting merchant who is the coordinator of the company. (Sutinah, Hamzah, ChasymHasani, 2017)

## IV. DISCUSSION AND CONCLUSION

### 4.1 Conclusion

Based on the result description of the previous discussion, it can be concluded that:

1. Seaweed marketing channel (Eucheumacottonii) from Kalimantan and Maluku consists of channels:a) Marketing channel 1: the cultivators sell the seaweed to collecting merchants, then to wholesaler and lastly to the exporter companies.b) Marketing Channel 2:

the cultivators sell the seaweed to collecting merchants and directly to exporter companies.

2. Margin marketing of seaweed (EucheumaCottonii) at the company of PT. ABC, PT. Y and PT. XYZ is:a) The highest marketing margin is at the marketing agency of exporter / Industry at PT. ABC of Rp. 5,000 / Kg and the lowest at the collecting merchant institution of Rp. 500 / Kgb) Based on the calculation of marketing efficiency, the three seaweed marketing channels from Maluku are efficient because the efficiency value is <50%. The value of 1 marketing channel efficiency is 15% while the marketing channel efficiency value 2 is 15.1%. Also, Kalimantan seaweed is efficient because Ep<1.

3. There are 3 systems of partnership that occurred in the company of PT. ABC, PT. XYZ and PT. Y with collecting merchants called Core Plasma, subcontracts and general trading partnerships.

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