

# Measuring margin and efficiency of the rice marketing channel

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**Abstract.** Rice is a commodity that holds a strategic position, and rice is also a strategic industry for the national economy. Marketing systems usually revolve around activities between suppliers of goods. In this case, the grain suppliers come from farmers. The process of marketing rice/grain from farmers will undergo a long process and will experience changes in prices from farmers to consumers. The study was conducted in Apala Village, Barebbo District, Bone Regency, South Sulawesi Province, Indonesia. The analysis used in this study is a qualitative and quantitative descriptive analysis using the marketing margin formula and marketing efficiency. The study results show that the margin in the first channel Rp. 3,933 with an efficiency level of 14.3% and a margin for the second channel of Rp. 3,033 with an efficiency level of 12.4%. Hal showed that both lines estab asaran have been efficient.

## 1. Introduction

Today rice is grown Practically everywhere, except Antarctica. Rice is grown on flooded land and on dry land, in tropical rain forests of Africa and in arid deserts of the Middle East, on coastal plains and on the Himalayan mountains. In the year 2010, the world produced about 603 million tones of paddy rice. Most of that - about 583 million tones- was grown in Asia. It has been estimated that half the world's population subsists wholly or partially on rice. Ninety percent of the world crop is grown and consumed in Asia. Rice provides 27% of people's energy intake and 20% of their dietary protein. Rice is a commodity that holds a strategic position d of natural estab farm buildings [1]. In Indonesia, as many as 90% of the population makes rice as a staple food, besides rice is also a strategic industry for the national economy [2]. According to the agriculture census, rice cultivation and secondary crops in Indonesia support more than 74% of households working in the agricultural sector (other than horticulture and plantations) or absorb more than 18 million agricultural households. This amount is the biggest absorption of labor compared with other commodity exploitation in the country.

According to BPS Regency Bone data (2015), Bone Regency has an area of 4,559 km<sup>2</sup>, which is one of the districts in South Sulawesi that has considerable agricultural potential. The agricultural sector in Bone Regency is divided into five sub-groups. Namely, 1) the food crop agriculture sub-sector consisting of rice and nutmeg (corn, soybean, peanuts, cassava, and sweet potatoes), 2) the plantation sub-sector, which produces quite a lot of production is cocoa, coconut, sugarcane, candlenut and cloves, 3) the highest forestry sub-sector, namely, forest wood (meranti, teak, and others), and non-wood forest (rattan, resin, pine resin, etc.), 4) livestock subsector, themselves from large livestock (cows, buffaloes, horses, and goats), 5) fisheries subject including marine fisheries and inland



fisheries (ponds and ponds). Data of the Department of Agriculture Food Crop District. Bone shows that the rice commodity produced by Bone Regency is the highest food production compared to other food crops (soybean, soybean, peanut, cassava, and sweet potato. In 2012, 876,937 tons of rice production decreased in 2013 to 777.7 33 tons but again experienced an increase in production in 2014, which was 885,654 tons.

The rice/rice marketing system usually revolves around activities between suppliers of goods and services, companies, and markets. The relationship between these three components is usually influenced by environmental factors and other activities. The relationship between a supplier and a company can be either a permanent or a non-permanent relationship, in the sense of whether the supplier has a bound or non-binding relationship. In Indonesia, in order for the supplier relationship to be ok (say small industries) and large industrial companies) to benefit, a "foster father" system is formed. With a system like this, it is hoped that the "supply" of raw materials will be smooth (available in sufficient quantities and available at all times if needed), and the marketing process will be more guaranteed [3].

Roughly 30% of domestic production is sold by producer farmers, and the rest is for the consumption of farmers themselves. For the portion that enters this market, approximately 80% is traded/distributed by private trading companies, and the rest is by the Logistics Agency (BULOG), a government trading agency that has branches in the Logistics Depot to cities districts. In the private channel, farmers sell rice/grain to middlemen, or small traders in villages or specifically come from cities. These small traders, then grind the rice/grain to small hullers in the local village or sell it directly to large rice mills. If the rice/ rice is milled on its own, then the rice is brought to the city to be sold to large rice traders, and then these large rice traders (wholesalers ) sell it again to retailers. Large rice traders usually have their own mills.

In this case, the process of marketing rice/grain from farmers will undergo a long process through the marketing chain and will experience price changes from farmers to consumers through existing marketing institutions. A long marketing chain is inefficient because prices at the farm level will be low, and prices at the consumer level high. With this, it is not profitable for farmers and consumers. Farmers will receive low profits, and consumers will have to pay high prices. Preferably, the chain of marketing the short Efisien because of the level of prices obtained by farmers over tow manufacturer and the level of prices at the level of the consumer can lower [4]. A marketing system is declared to work effectively and efficiently if the system is able to provide incentives for stakeholders (producers, consumers, and marketing institutions) that are able to encourage decision-makers of these actors accurately and efficiently. The complexity of the marketing system varies between different commodities, markets, and times [5].

## 2. Methods

The study was conducted in Apala Village, Barebbo District, Bone Regency from July to August 2016, with 17 informants consisting of 10 farmer informants, two milling informants, and five retailer informants. The analysis used in this study includes:

### 1) Descriptive analysis

This analysis is an analytical method used to obtain an in-depth and objective picture of the rice marketing channel. The results of this analysis are presented in the form of rice marketing channels based on available information.

### 2) Marketing margins

To find out the rice marketing margin, it can be formulated as follows:

$$M = Pr - Pf \quad (1)$$

Information :

M : marketing margins

Pr : price at the retail level

Pf : farm gate price.

### 3) Marketing efficiency

To calculate the efficiency of rice ( $E_p$ ) marketing, it can be measured by the formula :

$$E_p = \frac{P_f}{P_m} \times 100\% \quad (2)$$

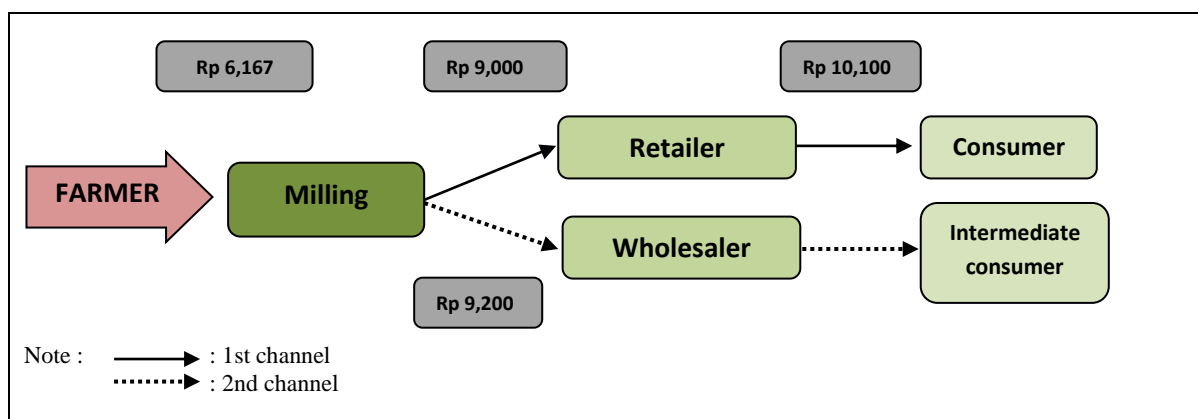
By decision rules:

- a. 0 - 33% : Efficient
- b. 34 - 67% : Less Efficient
- c. 68 - 100% : Inefficient

## 3. Results and Discussion

### 3.1. Grain / Rice Marketing Channels

There are various intermediaries involved in the rice marketing system, which have been expanded through the uncoordinated initiatives of private individuals. Since rice-producing areas are concentrated and situated at some distance from the main urban consumption centers, the rice marketing system takes a long route to reach consumers. At the local level, intermediaries include local buyers or assemblers, local commission agents, cooperatives, farmers groups, local assembling market centers, millers, wholesalers, and retailers. At the regional level, large local assembling market centers and large millers are major intermediaries. The final level, i.e., country-level, includes commission agents, wholesalers, and exporters [6]. Marketing channels are interdependent organizations covered in processes that make products and services available for use or consumption by consumers, by looking at the condition of marketing channels in Apala Village, Barebbo District, Bone Regency, the structure of the grain/rice marketing channel in the outline found two channels. Marketing flow rain/grain can be seen in figure 1 below.



**Figure 1.** Grain / Rice Marketing Channel in Apala Village, Barebbo District, Bone Regency

In figure 1, it can be seen that the marketing channels in Apala Village, Barebbo District, District Bone have two channels, namely: (I) the first marketing channel, farmers sell pan-dried unhusked rice directly on milling. In the milling, treatment will be carried out from drying, grinding to packaging rice. After that, the rice will be sold to wholesalers who are also pioneers of retailers who will be sold directly to consumers without any further treatment. (II) A second marketing channel, farmers sell grain at milling. After milling, rice will be sold to large traders / inter-island traders outside the region,

from inter-island traders outside the region will be sold to intermediate consumers who are not the scope of this study.

### 3.2. Marketing margins

Marketing margin is the price financed by the consumer less than the price received by the producer.

- 1) Marketing margin on marketing channel I can be calculated based on the formula. Where the price at the farm level is Rp 6,167, and the price at the retail level is Rp 10,100, -. Then :  $M = 10,100 - 6,167 = 3,933$ . So, the marketing margin generated from marketing channel I in Apala Village, Barebbo District, Bone Regency, is Rp. 3,933 / kg. This shows that the price difference from producers to the hands of consumers is Rp. 3,933
- 2) In the channel, II PAP acts as the final consumer with the purchase price of Rp. 9,200. For marketing margins in marketing channel II, that is  $9,200 - 6,167 = \text{Rp } 3,033$ . So the marketing margin for the second marketing channel in Apala Village, Barebbo District, En Bone Regency, is Rp 3,033.

### 3.3. Marketing efficiency

The level of marketing efficiency can be seen from several things, namely the calculation of marketing margins, the amount of marketing costs, the amount of marketing profits, the amount of shares received by farmers (farmer's share) and the amount of shares received by marketing institutions (trader's share) and the level of efficiency of each marketing agencies involved in the trade system process. Marketing costs are costs incurred for the purpose of marketing a product, which includes transportation costs, labor costs, and other costs required in marketing channels. Marketing costs occur because of the distance between producers and consumers. If the distance between producers and consumers is short, transportation costs can be reduced. The longer the distance from producers or from traders to consumers, the more intermediaries (marketing institutions) are involved, the higher the marketing costs will be [7].

The cost component of marketing channel I in Kelala than Apala, Barebbo District, Bone Regency can be seen in table 1 below.

**Table 1.** Components of marketing channel cost I

No.	Marketing Institute	Channel I (Rp / Kg)	Cost percentage (%)
1	Farmers	0	0
2	Milling:		
	a ) Milling Costs	600	63.8
	b ) Labor Costs		
	- field	100	10.6
	- Factory	80	8.5
	c ) Transportation costs (from farmers)	20	2.1
		40	4.3
	d ) Unloading Costs	100	10.6
	e ) Packaging Costs		
	Total cost	940	100
3	Reseller:		
	a ) Transportation costs (from grinding)	250	50
		200	
	b ) Unloading Costs	50	40
	c ) Retribution Costs	10,100	10
	d ) Selling price		
	Total cost	500	100

4	Consumer	0	0
Total cost		1,440	0

\* the price of conversion of grain to rice with a 60% amendment

Table 1 it can be seen that the total cost in marketing channel I is in the milling at the cost of Rp. 940 / kg, which includes transportation costs from the farmer's field of Rp. 20.00, field laborers on duty for drying at the cost of Rp. 100,00 and mills are carrying out the task of grinding using machinery amounting to Rp. 80,00, transportation costs Rp. 20.00, loading and unloading cost Rp. 40,00, and the cost of packaging Rp. 100,00. Whereas at retail institutions, the cost is Rp. 500.- / kg, including transportation costs, loading and unloading costs, and retention costs. So, the total cost in marketing channel I is Rp. 1,440/kg.

The components of the cost of the marketing channel II in Apala Sub Barebbo, Regency Bone can be seen in table 2 below.

**Table 2.** Components of marketing channel cost II

No.	Marketing Institute	Channel I (Rp / Kg)	Cost percentage (%)
1	Farmers	0	0
2	Milling:		
	a) Milling Costs	600	52.6
	b) Labor Costs		
	- field	100	8.8
	- Factory	80	7.0
	c) Transportation costs (from farmers)	20	1.8
	d) Unloading Costs	40	3.5
	e) Packaging Costs	100	8.8
	f) Transportation costs (to PAP)	200	17.5
	Total cost	1,140	100
3	PAP / Wholesalers	0	0
Total cost		1,140	0

\* the price of conversion of grain to rice with a 60% amendment

Table 2 it can be seen that the total costs in marketing channel II, namely the milling at the cost of Rp.1,140 / kg which includes transportation costs from farmers ' rice fields, field workers and factories doing drying, milling, transportation costs, unloading costs loading, packaging costs and loading and unloading costs.

So that the level of efficiency in 2 rice marketing channels in Apala Village, Barebbo District, Bone Regency, South Sulawesi, can be seen in Table 3 below.

**Table 3.** The efficiency of Rice Marketing Channels

Marketing channel	Cost (Rp / kg)	Product Value (Rp / kg)	Efficiency (%)
I	1,440	10,100	14.3
II	1,140	9,200	12.4

In table 3, it can be seen that both marketing channels have been efficient because the total cost (TB) spent is smaller than the total product value (TNP), marketing activities will be efficient if  $TB < TNP$ . Conversely, if  $TB > TNP$ , then marketing activities are inefficient. Based on the table, there are both marketing channels in Apala Village, Barebbo District, Bone District, the percentage of

efficiency of channel I is 14.3% (<30%), and channel marketing II is 12.4% (<30%). The smaller the percentage obtained, the more efficient marketing activities.

Even if seen from the total marketing margin, the first marketing channel margin is Rp 3,933, and the second marketing channel is Rp 3,033. The smaller the existing marketing margins, the more efficient the marketing is. M margin marketing is used to measure the efficiency of estab asaran (depending on the function of marketing is executed) [8]. The greater the marketing margin, the more inefficient the marketing system. If viewed from the marketing margin, both marketing channels are efficient. In addition to the terms of the margin percentage, it can also be seen in the short length of the marketing channel that is available, a short supply chain of advice will be efficient because the price level obtained by farmers is higher and the price level at the consumer level can be lower.

#### 4. Conclusion

Based on the results obtained, the two marketing channels in Apala Village, Barebbo District, Bone Regency have efficiency, with the result that the margin on the first marketing channel is Rp3,933 with an efficiency level of 14.3% and the margin for the second marketing channel is Rp3,033 with a level efficiency of 12.4%.

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