Analysis of Income Level and Profit of Salt Farming Business

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Abstract

The purpose of this study was to determine the income level of salt farmers and the relative profit of farming in Dresi Kulon Village. The sampling technique used is purposive sampling. The data used are primary data and secondary data. The analysis used is income analysis and relative profit analysis. The results showed that the average income level of salt farmers on 0.5 – 1.5 hectares of land was IDR 400,000 per season and IDR 9,250,000 per year. The average income level on an area of 1.6 – 2 hectares is IDR 450,000 per season and IDR 10,400,000 per year. In the 2.1 – 3 hectares cluster, the average income is IDR 530,000 per season and IDR 12,242,000 per year. The results of the analysis show that farming is said to be profitable, but the BEP price for the entire land obtained is Rp. 203 per year. The relative advantage of the R/C Ratio of agricultural businesses is said to be profitable, while the BEP Production value in the entire land area is at a loss. The ROI value in salt farming is 50% per season and 47% per year.

Keywords: *Salt, Farming, Income Level, Business Relative Profit, BEP, R/C ratio, ROI*

Abstrak

Tujuan dari penelitian ini adalah untuk mengetahui tingkat pendapatan petani garam dan keuntungan relatif usahatani di Desa Dresi Kulon. Teknik pengambilan sampel yang digunakan adalah purposive sampling. Data yang digunakan adalah data primer dan sekunder. Analisis yang digunakan adalah analisis pendapatan dan analisis laba relatif. Hasil penelitian menunjukkan bahwa rata-rata tingkat pendapatan petani garam pada lahan 0,5 – 1,5 hektar adalah Rp 400.000 per musim dan Rp 9.250.000 per tahun. Dalam cluster 2,1 – 3 hektar, pendapatan rata-rata adalah Rp 530.000 per musim dan Rp 12.242.000 per tahun. Hasil analisis menunjukkan bahwa usahatani dikatakan menguntungkan, namun Harga BEP untuk seluruh lahan yang diperoleh sebesar Rp 203 per tahun. Keuntungan relatif R/C Ratio usaha pertanian dikatakan menguntungkan, sedangkan nilai BEP Produksi di seluruh luas lahan merugi. Nilai ROI pada usahatani garam 50% per musim dan 47% per tahun.

Kata Kunci: Pertanian, Garam, Tingkat Pendapatan, Keuntungan Relatif Usaha, BEP, R/C ratio, ROI

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INTRODUCTION

Indonesia is one of the most significant island countries globally, which has a large area of oceans and landmasses (islands). In addition to being said to be an agricultural country (Prakoso & Prajanti, 2021), Indonesia also gets the title of a maritime country because it has large territorial waters. This is indicated by data on Indonesia's coastline length, namely, the area of the seas (sea) 108.000 km 6,400,000 km2 (Ministry of Marine Affairs and Fisheries, 2019), while the total size of Indonesia's territorial province reaches 290,000 km2.

The main potential of marine resources in Indonesia is salt which is produced in various regions of Indonesia (kurniawan et al, 2021). This potential will boost Indonesia's economy in the marine sector. With geographical conditions of 3/4 part of the territorial waters, Indonesia may become a solid and independent maritime country in the world (maritime axis), coupled with the population in Indonesia, which is currently projected to reach 271,066,400 people (Statistics Indonesia, 2019).

But the magnitude of the potential of the marine sector and subsector in Indonesia has not been optimized properly, as well as the salt farming sub-sector. Salt can be developed because of the many national salt needs. The number of salt needs from year to year is projected to increase constantly. This condition is due to the number of industries in Indonesia that use salt as the primary raw material and add in the production process so that salt cannot be separated from the development of industry in Indonesia.

In other words, salt has become one of the factors of production in several sectors whose presence can affect the level of output (Fahrudin, 2018). One of the national salts contributing provinces is Central Java, ranking second only to East Java. Several salt-producing regions in Central Java, among others, Demak, Rembang, Pati, Jepara, and Brebes.

The area has a land area optimized for salt propagation in Central Java. Still, often the land available varies widely, not proportional to the amount of production or harvest. This condition because the amount of productive land used for salt farming is not much even though the potential of salt farming land that can be utilized is available. One factor is the lack of resources to work on the farm.

Table 1. Amount of Salt Needs

Year	National Salt Needs (TON)
2016	3,532,887
2017	3,862,925
2018	3,960,945
2019	4,197,622

Source: Statistics coordinating Ministry for Economic Affairs, 2019

One of the potential salt production centers in Central Java Province is in Rembang Regency, spread across five sub-districts. By looking at these conditions, it can be described that Rembang Regency has a large area and potential for the development of salt farming. Kaliori district has the largest salt-producing potential in Rembang Regency by 641.52 ha and salt production of 74988.4 tons/ year. The potential of krosok salt as a raw material for salt consumption produced in the Rembang Regency is enormous.

Kaliori district has ten salt-producing villages, where the village can be developed in advance the salt agriculture of rembang regency. The largest salt-producing village is Dresi Kulon Village has a total of 668 farmers consisting of

farmers and landowners, a land area of 207.07 ha, and an amount of production as much as 23579 tons per year.

In 2020, several salt farmers in Rembang complained about the price of salt that decreased dramatically. In addition to the prolonged dry season, the price of salt that fell was also influenced by salt imports that were considered excessive. As a result, salt farmers in some areas of Central Java also experienced considerable losses.

Due to salt production that could not compete in the market, the price of salt in 2020 decreased dramatically to IDR.200 to IDR,300 per kilogram. The aim of this study is to determine the income level of salt farmers and the relative profit of farming in Dresi Kulon Village Kaliori District Rembang Regency.

RESEARCH METHODS

Research that was used is Descriptive Quantitative. The result of the research explain about level income farmer and level advantage relative at agriculture Commodities salt. Research Implemented of Village Jerseys Kulon District Kaliori Regency Rembang Province Javanese Middle on moon June 2021. Data that Used be Primary and Secondary data.

Data primer be data generated from Activities Observation and interview where be one technical collection data done with face held question and answer immediately in oral towards Respond with panduan questionnaire towards farmer about Collection data good input and output. While secondary data obtained from some agency related that is Ministry Marine and Fishing, Central Bureau Statistics (BPS) of Central Java, and Regency Rembang. The population Includes sum farmer salt in Village

Jerseys Kulon which be the owner land that Recorded at Service Marine and Fishing Regency Rembang. Obtained some farmer salt in Village Jerseys Kulon As 668 farmer where 70 as landowner.

From the population of salt farmers who own land in Dresi Kulon Village as many as 70 farmers are determined samples. To be able to determine the number of samples of salt farmers, according to (sugiyono, 2010) if you will take samples from a number of populations then a level of precision (precision) of 5-15 percent which will later be able to represent the overall population, then used the approach formula according to Slovin (sugiyono, 2010) with the following formulation:

$$n = \frac{N}{1+N(e^2)} \dots\dots\dots\dots\dots(1)$$

Information:
n = Number of samples
N = Population
e² = Precision Level (set at 5 percent)

We using the slovin formula obtained the number of samples fo the study as follows:

$$n = \frac{N}{1+N(e^2)}$$
$$n = \frac{70}{1+70(0,05^2)}$$
$$n = \frac{70}{1+70(0,0025)}$$
$$n = \frac{70}{1,15}$$
$$n = 60 \text{ samples}$$

Based on the calculations above, a sample of 60 landowners in Dresi Kulon Village of Kaliori District of Rembang Regency, then from a number of 60 respondents of landowner farmers in the clustering process in accordance

with the land area owned ranging from 0.5 to 1.5 hectares, 1.6 to 2 hectares, 2.1 to 3 hectares.

In this study, the data collection technique used is a survey technique by way of observation and conducting interviews directly with questionnaire guidance to people's salt farmers in Dresi Kulon Village kaliori subdistrict (landowners) who qualify for sampling. The study used income level analysis and a relative profit analysis of efforts. Income level analysis is used to calculate the quantitative value of a business in the form of income levels.

In the use of agricultural income analysis, the data used is data from salt farming businesses in Rembang Regency that have conditions for calculating income levels. While the analysis of business relative profits is used to find out the relative level of profit on salt farming business in Rembang Regency so that later it can be concluded that the business is said to be profit or loss in the conditions that have been described in the background discussion, the calculation used to analyze the relative profits of farmers is to use Revenue Cost (R/C), Return Of Investment (ROI), Break Event Point (BEP).

The level of income is calculated from the total revenue obtained from the amount of production multiplied by the price of the product (salt commodity) minus the total costs incurred which include variable costs and fixed costs. To find out the level of income according to Soekartawi (2003) used the following formula:

$$\pi = TR - TC \ \ldots\ldots\ldots\ldots(2)$$

Where:
TR = Y × Py
TC = VC + FC

Information:
π	=	Net Income of Farmers (IDR)
TR	=	Total Receipt (IDR)
TC	=	Total Cost (IDR)
Y	=	Production obtained (IDR)
Py	=	Production Price (IDR)
FC	=	Fixed Cost (IDR)
VC	=	Variable Cost (IDR)

Analysis of the relative advantages of farmers is used as a comparison between receipts with costs (R/C Ratio), Break Event Point (BEP), and Return of Investment (ROI). Relative gains can be measured by using the R/C Ratio analysis which results from calculating the income level of salt farmers with their production costs during the season or in a year during the harvest. According to Panjaitan et al (2014), mathematically the analysis of the relative advantages of salt farming can be formulated as follows:

$$R/C = TR/TC \ \ldots\ldots\ldots\ldots(3)$$

Information:
R/C = Ratio of Receipts and Fees
TR = Total Receipt (IDR)
TC = Total Cost (IDR)

The criteria for decision making on the relative advantages of farmers are as follows: If R /C > 1, describe a farm experiencing profits due to higher receipts from the costs incurred (profit). If R /C < 1, describe a farm experiencing losses due to receipts lower than the costs incurred (loss). If R/C = 1, describe a farm breaking even because the acceptance is equal to the cost incurred (breakeven). Break Event Point is used to measure the relative level of profit in salt farming businesses which is calculated

under two conditions, namely production and price as formulated by (soekartawi, 2003):

$$\text{Break event (BEP) Production (Kg)} = \frac{\text{Total Cost (IDR)}}{\text{Selling Price (IDR)}}$$

$$\text{Break event (BEP) Price (IDR)} = \frac{\text{Total Cost (IDR)}}{\text{Production Price (IDR)}}$$

The production BEP criteria are as follows: If the PRODUCTION BEP < the Amount of Production, then the business is in a favorable position. If the Production BEP = Amount of Production, then the business is at the break-even or not profit or loss position. If the BEP of Production > the amount of production then the business is in an unfavorable position. As for BEP, The price criteria are as follows: If the BEP Price < the Selling Price, then the business is in a favorable position.

If BEP Price = Selling Price, then the business is at break-even or not profit/loss. If the BEP Price > the Selling Price, then the business is at an unfavorable position. Return of Investment analysis in financial analysis in salt farming business is very important as a thorough financial analysis technique. ROI is a ratio that measures the ability of salt farming businesses in generating profits with the total amount of assets available in the company (Soekartani, 2003), which is formulated as follows:

$$\text{ROI} = \frac{\text{Net Income (IDR)}}{\text{Production Cost (IDR)}} \times 100\% .... (4)$$

RESULTS AND DISCUSSION

Table 2 shows that all salt farmers in Dresi Kulon Village kaliori district potential salt producers are in the category of productive age and very productive, this means farmers can do agricultural activities with so that the income

obtained can increase and enough to meet daily needs both food and non-food needs.

Table 2. Age state of salt farmers

Age	Number (people)	Percentage (%)
21-30	0	0
31-40	12	20
41-50	17	28.33
51-60	21	35
61-70	10	16.67
Total	60	100

Source: Primary Data, 2021

Table 3 shows the level of education of farmers in Dresi Kulon Village of Kaliori District of Rembang Regency behind elementary school level education, where it can be said that the low level of education of salt farmers is caused by economic problems that are less supportive and also the desire of farmers to no longer continue to a higher level.

Table 3. Farmer Education Levels

Education	Number (people)	Percentage (%)
Elementary School	32	53.33
Junior High School	0	0
Senior High School	28	46.67
Total	60	100

Source: Primary Data, 2021

Table 4 shows the number of members of the salt farming family, it can be categorized into moderate levels, where the average salt farmer has family members as many as 1-4 people with a percentage of 91.67%. This illustrates the amount of household expenditure of farmers with each other will be different.

Table 4. Number of Family Members

Number of Family Members	Number (people)	Percentage (%)
1 -4 (Small)	55	91.67
5 -7 (Medium)	5	8.33
>7 (Large)	0	0
Total	60	100

Source: Primary Data, 2021

Table 5 shows the experience of farming in salt commodities, of which 8.3% fall into the category of quite experienced with the number of 5 people, and the category is very experienced as much as 91.67% with the number of 55 people. so from the table above can explain that most farmers are experience in farming salt for more than 10 years.

Table 5. Salt Farming Experience

Farm Experience (Years)	Number (people)	Percentage (%)
<5	0	0
5 to 10	5	8.3
>10	55	91.67
Total	60	100

Source: Primary Data, 2021

Based on the results of the study, it was concluded in this study that the area of land owned by landowners in Dresi Kulon Village has a land area of 0.5 - 1.5 hectares amounting to 27 farmers, 1.6 - 2 hectares amounting to 23 farmers, 2.1 - 3 hectares of 10 farmers, the results were obtained from interviews with landowners. The area of land owned by salt farmers in Dresi Kulon Village will illustrate the difference obtained from each farmer both from the amount of production and the level of income, the wider the land owned, the potential to obtain higher incomes is greater.

Table 6. Salt Farmers Land Area

Land Area (Ha)	Number (people)	Percentage (%)
0,5 – 1,5	27	45
1,6 – 2	23	38
2,1 – 3	10	17
Total	60	100

Source: Primary Data, 2021

Based on the results of research on the average amount of salt production in Dresi Kulon Village of Kaliori District of Rembang Regency on a land area of 0.5 - 1.5 hectares amounting to 4 tons per season and 96 tons per year, then the amount of salt production with a land area of 1.6 - 2 hectares amounting to 4.5 tons per season and 108 tons per year, while the amount of salt production with a land area of 2.1 - 3 hectares amounting to 5.3 tons per season and 127.2 tons per year. While the amount of salt production with a land area of 2.1 - 3 hectares amounting to 5.3 tons per season and 127.2 tons per year.

Table 7. Average Farmer Production

Land Cluster (Ha)	Average Amount of Production (Ton)	
	Per Season	Per year
0,5 - 1,5	4	96
1,6 – 2	4,5	108
2,1 – 3	5,3	127,2

Source: Primary Data, 2021

The amount of salt production with a land area of 2.1 - 3 hectares amounted to 5.3 tons per season and 127.2 tons per year. While the amount of salt production with a land area of 2.1 - 3 hectares amounted to 5.3 tons per season and 127.2 tons per year, while the amount of salt production with a land area of 2.1 - 3 hectares

amounted to 5.3 tons per season and 127.2 tons per year, while the amount of salt production with a land area of 2.1 - 3 hectares amounted to 5.3 tons per season and 127.2 tons per year.

Table 8. Average Production Costs

Land Cluster (Ha)	Average Production Cost (IDR)	
	Per season	Per year
0,5 - 1,5	800	19550
1,6 – 2	900	22000
2,1 – 3	1060	25918

Source: Primary Data, 2021

Based on the results of research on production costs in salt farming including variable costs and fixed costs (attachments),

where the average amount of production costs is divided based on the area of land that has been clustered, so that the production cost of salt farming business with a land area of 0.5 - 1.5 hectares amounting to IDR 800,000 per season and IDR 19,550,000 per year.

Then the cost of producing salt farming business with a land area of 1.6 - 2 hectares amounting to IDR 900,000 per season and IDR 22,000,000,- per year, while the cost of producing salt farming business with a land area of 2.1 - 3 hectares amounting to IDR 1,060,000 per season and IDR 25,918,000 per year. Variable costs incurred by salt farmers in Dresi Village include workers' wage costs and transport costs, while fixed costs include tax costs and depreciation of tools.

Table 9. Salt Farm Revenue and Income by Land Area

Land Cluster (Ha)	Average Receipts and Revenues (IDR)			
	Acceptance		Income	
	Per season	Per year	Per season	Per year
0,5 - 1,5	1200	28800	400	9250
1,6 – 2	1350	32400	450	10400
2,1 – 3	1590	38160	530	12242

Source: Primary Data, 2021

Labor used in salt farming comes from family members and workers who are paid per week with the provision of revenue sharing, where the share of the proceeds will be received by workers in the nominal form of money after going through the harvesting process, after which the revenue sharing wage will be divided again by the number of existing harvesting farmers.

Based on the results of income analysis research, showing the level of income of salt farmers in Dresi Kulon Village obtained from the

total amount of products and also the price during the harvest season and a year is obtained, the average income level of salt farmers in Dresi Kulon Village on the land area is 0.5 - 1.5 hectares amounting to IDR 400,000 per season and IDR 9,250,000 per year.

While the average income level in the land area of 1.6 - 2 hectares amounting to IDR 450,000 per season and IDR 10,400,000, - per year. The cluster area of the land area of 2.1 - 3 hectares average income of IDR 530,000 per season and IDR

12,242,000 per year. The value of these incomes can change by adjusting the condition of salt farming, the income is influenced by several factors including land area, production level, and also the price of salt farming production in Dresi Kulon Village.

Table 10. Results of R/C Ratio, BEP, and ROI Analysis in Salt Farming

Land Cluster (Ha)	Relative Profit Analysis							
	R/C Ratio		BEP				ROI (%)	
			Production (tons)		Price (IDR)			
	Per season	Per year	Per season	Per year	Per season	Per year	Per season	Per year
0,5 - 1,5	1,5	1,47	2,67	65,166	200	203,64	50	47,3146
1,6 – 2	1,5	1,47	3	73,333	200	203,70	50	47,2727
2,1 – 3	1,5	1,47	3,53	86,393	200	203,77	50	47,2336

Source: Primary Data, 2021

The results of the study are in accordance with the theory of agricultural income according to (Gustiyana, 2004), which says that agricultural income can be divided into two understandings, namely gross income or receipt, is all income earned by farmers in agriculture for one year or harvest season that can be taken into account from the sale or exchange of production products assessed in IDR based on price per unit weight at the time of yield collection. While net income, i.e. all income earned by farmers in one year is reduced by the cost of production during the production process. Salt commodity development in a good way can encourage job opportunities and poverty alleviation (Maflahah et al, 2020).

Based on the results of the analysis of the relative profits of salt farming efforts using R/C Ratio, BEP, ROI analysis which is divided into 3 clusters of land area. The value of R/C Ratio in salt farming in Dresi Kulon Village with all land area classification shows the figure of 1.5 per season and 1.4 per year or more than (>) 1, which means that every IDR 1 issued for the production process will produce IDR 1.5 per season and IDR 1.4 per year so that the farm is said to be profitable.

Unlike the previous research by Koharto and Irmawaty (2019), in this study, the R/C Ratio analysis was not used to measure the level of feasibility as in previous studies by (Koharto and Irmawaty, 2019) because the results obtained are less valid to determine feasibility in farming efforts, so researchers choose the R/C Ratio analysis to measure the level of relative profits in salt farming businesses, The analysis is more precise to be used as an analytical tool to determine relative gains, the results of the study are in line with the theory of R/C Ratio analysis presented by Panjaitan (2014).

The value of Break Event Point (BEP) in the salt farming business in Dresi Kulon Village kaliori district, when viewed from BEP production in all clusters of land area, is less than the amount of production in each land cluster so that the farm is said to be profitable, while when viewed from BEP the price for all clusters of the land area obtained amounted to IDR 200 per season and IDR 203 annually, the result is less than the level of production price in

the salt farming business in Dresi Kulon Village which is IDR 300 so the farmer said to lose money, the loss was due to the plummeting price of salt in 2020 which resulted in an effect on salt farming.

The research is in line with the theory of Soekartawi (2003) which states that BEP is an analysis to determine and find the number of goods or services that must be sold to consumers at a certain price to cover costs incurred and get profits or profits, where there are two calculations, namely BEP production and price. The value of Return of Investment (ROI) in the salt farming business in Dresi Kulon Village kaliori subdistrict in the area of the average land cluster generated ROI value of 50% per season and 47% per year from the amount of capital spent for 1 year.

The results shows that salt farming in Dresi Kulon Village gets a profit of IDR 50 per season and IDR 47,- per year in every IDR 100 costs invested in the form of fixed and variable costs from salt farming businesses in 2020 when salt price conditions decrease. This research is in line with the theory put forward by Soekartawi (2003) where ROI is a ratio that measures the ability of salt farming businesses to generate profits with the total amount of assets available in the company or business.

CONCLUSION

Based on research on the analysis of income levels and relative profits of salt farming businesses in Dresi Kulon Village of Kaliori District of Rembang Regency, it can be concluded as follows: The average income level of salt farmers in Dresi Kulon Village on a land area of 0.5 - 1.5 hectares amounted to IDR 400,000 per season and IDR 9,250,000 per year.

The average level of income in the land area of 1.6 - 2 hectares amounted to IDR 450,000 per season and IDR 10,400,000 per year. In the cluster area of land area, 2.1 - 3 hectares average income of IDR 530,000 per season and IDR 12,242,000 per year.

The value of the income is generated in conditions when the price of salt has plummeted in early 2020 and the absorption of salt for consumption is hampered, the level of income generated per season for 1 week of harvest and annually for 5 months of harvest or 24 weeks. The value of the income is certainly used to meet the needs of farmers' households and production needs in the salt farming business owned.

Based on the calculation of relative profits using 3 indicators, namely R/C ratio, BEP, ROI generated that salt farming business, in Dresi Kulon Village kaliori district of Rembang regency in 2020 experienced profits on the production side and suffered losses on the price side, this is due to a decrease in price factors in 2020 which makes the price of people's salt slump to IDR 300.

The value of ROI or profits derived from investments incurred in the salt farming business is 50% per season and 47% per year, which if the farm spends IDR 100 it will get a profit of IDR 50 per season and IDR 47 per year, from the production costs incurred during the production process, the amount will increase in line with the level of production that can be produced and the price on the production of the salt farming business in Dresi Kulon Village.

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