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## ANALYSIS OF THE ROLE OF MFI AND FAMILY FUNDING ON WELFARE MADURA SALT FARMER

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#### ABSTRACT

Basically, financial service institutions in the form of microfinance institutions (MFIs) are needed to support rural economic development, especially as institutions to facilitate the costs of salt farming businesses. This is because most farmers face technology adoption due to weak capital. This condition occurs in salt farmers, Kalianget District, Sumenep Regency. This study aims to determine the concept of salt business. factors that affect the productivity of salt business, and the role of microfinance in salt farming. The study was conducted in the village of Kertasada with the aim of using a purposive sampling method with a total of 45 samples. The data obtained from the study were analyzed using R/C and Cobb-Dougllass functions. The results showed that salt farmers were profitable with an R/C value  $>1$ , salt production was significantly affected by labor, weather and family funding

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### INTRODUCTION

Salt is one of the strategic industries. It is said to be strategic because its function is very vital for human needs. The use of salt can be broadly divided into three, namely salt for human consumption, salt for salting and various foods, and salt for the chemical industry (Widodo, 2011). In Indonesia, even though it is an archipelagic country, it is a center for making salt concentrated in Java and Madura, namely, in Java covering an area of 10,231 Ha (West Java, 1,159 Ha, Central Java 2,168 Ha, East Java 6,904 Ha) and Madura 15,347 Ha (Sumenep 10,067 Ha, Pamekasan 3,705 Ha, Sampang 2,205 Ha). The area managed by PT. Salt is only 5,116 ha, all of which are on the island of Madura, namely Sumenep 3,163 ha, Pamekasan 907 ha and in Sampang 1,046 ha.

When compared between national needs and production capabilities, national salt production is only able to meet the needs from the consumption side, while for the needs of industrial raw materials it still depends on imports. Although consumption salt has been met by

domestic production, it turns out that most of the people's salt production still requires further processing to be able to meet all the standards needed so that it is suitable for consumption by the community (Abdullah Jarir, 2011)

Especially the East Java region, especially salt farmers. These business actors are mostly farmers and collectors in small and medium scale enterprises (SMEs). The potential of East Java as a salt-producing area. It will be followed by a very potential salt processing industry to improve the economy, especially the salt sector. And these conditions can be used as an opportunity that can be developed with various forms of partnership systems, so that these opportunities and potentials can be utilized to become an investment prospect, which will ultimately improve family welfare. (Sasongko & Satrianto, 2021)

Most of the people's salt production is not bought, it keeps piling up in the fields, or when purchased at a very low price. It really affects welfare of salt farmers. In that case, the "importation of salt" is things that were "blamed" and PT Garam which was protested because it was "considered" as an institution that handle national salt.

Until now, domestic salt production capacity has not been able to meet industrial demand. This is because the productivity and quality of the salt produced by farmers is still low so that they have not been able to meet the specifications of the domestic industry. (Efendy, et al., 2016). Salt industry players, especially small-scale salt farmers living in rural areas, are faced with low technological mastery, weak capital ownership, lack of access and information to markets, and limited business management skills (Zamroni Salim, Ernawati Munadi, 2016).

As one of the small-scale salt producing districts in Indonesia. Salt farmers in Sumenep district face several problems that result in a high level of poverty in the salt farming community. This problem arises because salt farmers depend on coastal and marine resources for their lives which require large investment costs, dependence on seasons, limited land, low quality and price of salt and imported salt policies that hit farmers' salt prices (Rocwulaningsih, 2007; Widodo, 2011; Ihsannuddin, 2012). As a result of this risk, many salt farmers are unable to survive in this business, so some have doubled their land for rent or pursue other business fields such as fisheries and shrimp. With the conditions mentioned above, the productivity of people's salt is certainly not considered optimal and is still relatively low when compared to other sea salt producing countries, such as Australia which is capable of producing 350 tons of salt/hectare.

The problems that arise do not only come from existing resources (natural, human, financial and physical factors), social relations (social class, education, gender, ethnicity), government policies (macroeconomics, microeconomics, sectoral policies), as well as turbulence. /shock (bad weather, disasters, disease, climate change), but also related to institutional problems (rules of the game, control, ownership, organization) that exist in coastal communities (Ragil P. Andriyani, 2013)

Institutional problems in the salt business sector in general at least can be seen based on the conditions of the production business starting from the production input institution and marketing. In the input institution, the problem that occurs is salt farmers difficulty in accessing capital for production inputs and facing rising labor costs. Microfinance institutions are needed to support rural and coastal economic development activities, especially as a provider of capital facilities for agricultural businesses, especially salt farmers. This is in accordance with the characteristics of micro, small and medium enterprises (MSMEs) which do not require large capital for their businesses. Microfinance institutions are also more accessible than formal financial institutions such as banks. this condition is in accordance with the opinion of Krishnamurti, 2003; who argues that without adequate access to microfinance institutions,

almost all poor households will depend on their own limited financial capacity or on informal financial institutions such as moneylenders and middlemen. So that without the empowerment of their business capital it will be difficult to get out of the cycle of poverty.(Kurniawan et al., 2014)

One part of financial institutions that can be utilized and encouraged to finance economic activities in rural and coastal areas where the majority of the population's business types are included in the micro segment is Microfinance Institutions (MFIs). In simple terms, an MFI can be defined as a sustainable micro and small-scale savings and credit financial service institution for people who have micro and small-scale businesses. The forms of these MFIs are varied, from loan sharks to village credit banks.(Ana Arifatus Sa'diyah, 2014) The existence of Small and Medium Enterprises (SMEs) is an indicator of the running of the economy in a village, considering that the population of SMEs in Indonesia in 2007 reached 49.8 million (99 percent) of the total 49,845 business units.(Sari dan Karmini, 2019)

Through government policies in order to support the acceleration of poverty alleviation for salt farmers which is being promoted by the government, the latest in 2011 the implementation of PNPM Mandiri-KP consists of Development of Rural Mina Business (PUMP) Empowerment of People's Salt Business (PUGAR). PUMP is an empowerment program for improving welfare and job opportunities for fishing communities, cultivators as well as fish processors and marketers. While PUGAR is an empowerment program that is focused on increasing job opportunities and welfare for farmers through the bottom-up principle, meaning that the community itself plans activities, implements and conducts monitoring and evaluation in accordance with the specified mechanism.(Kurniawan et al., 2014)

The income of salt farmers is influenced by the season and depends on how long the dry season lasts. The hotter the temperature in the area, the salt production will increase which has an impact on increasing farmers' income. In addition, the income of farmers is also influenced by the production and market prices of salt. The market price is also determined by the quality of the salt. Not to mention the season in which farmers sell the salt. This is because not all products are offered to middlemen or companies, but some keep private salt stocks and sell them during the rainy season.(Yusiarica Aisyah Mirandi , Ida Nuraini, 2020)

Salt farming business is almost the same as agricultural business. Farmers want the highest productivity and profit. In order to achieve increased production and productivity. Certain inputs are needed, namely factors such as land area, labor, wind speed, weather, sea water clarity, crystallization method and capital from the MFI.(Echsan Gani, 2020)

The role of microfinance institutions is very appropriate in conditions when farmers' productivity has not been maximized due to natural factors. Microfinance Institutions serve salt farmers who do not have access to capital from banks. It is hoped that the intervention of microfinance institutions will be able to assist the capital aspect so that the hope is to increase the income and welfare of salt farmers amidst the risks of their business.(Wijaya et al., 2014)

The above background encourages researchers to examine the role of microfinance institutions as a means of production input, especially aspects of capital and contribution to improving the welfare of salt farmers in Madura. The results of this study will provide an overview of the institutional aspects of production inputs that have a strategic role in salt production activities. Indirectly, the institutional aspects of production inputs will also affect the economic condition of the salt farming community.(Sasongko & Satrianto, 2021)

Research hypothesis

1. What factors affect the productivity of salt farmers?

## 2. How does the Micro Credit Institution affect the welfare of salt farmers in Madura?

**METHODS**

In general, this research was carried out at the salt industry center in Madura. using quantitative research with descriptive and associative approaches. The research was conducted in the paper village, Kalianget sub-district, Sumenep district. Salt farming business which is carried out in conjunction with milkfish and shrimp fisheries. The condition of the pond land is mostly owned by PT. SALT (Persero). The selected respondents were 40 farmers. In addition to questionnaire data obtained from various agencies. This study also took a semi-open questionnaire with a combination of interviews. Welfare analysis uses income, total costs and return cost ratio (R/C ratio) measures. This calculation approach is based on previous research. (Email, 2011), Soekartawi (1995) by calculating the total costs (fixed costs and variable or variable costs), revenue, and business feasibility from the aspect of the R/C ratio.

The total cost (TC or total cost) is the sum of the fixed costs (FC or fixed costs) and variable costs (VC or variable costs), which can be written as:

$$TC = FC + VC$$

Salt pond business income (Pd) is the result of the difference in total revenue (TR) and minus all costs incurred for the business in one cycle. The equation can be calculated as follows:

$$Pd = TR - TC$$

Where

Pd= Farming Income/ Profit

TR= Total Revenue/ Total Farming Revenue

TC= Total Cost/ Total Cos

The R/C ratio (a) is obtained by comparing the revenue (R or revenue) with the cost (C or cost). Revenue (R) in this case is the number of goods produced from the pond business (Y or output) multiplied by the price per unit of goods produced (Py or price per unit output). Salt farming business is said to be feasible/profitable if it has an R/C value of more than one ( $R/C > 1$ ), no profit and no loss or break even at an R/C value equal to one ( $R/C = 1$ ) and is not feasible/ loss if the R/C is less than one ( $R/C < 1$ ). The R/C ratio function equation can be written as follows:

$$a = R/C$$

$$R = Py \cdot Y$$

$$C = FC + VC$$

$$a = \{(Py \cdot Y) / (FC + VC)\}$$

The character of the salt farming business in Kartasada village is a seasonal business that has the characteristics of being carried out with a combination of salt farming and fisheries. However, this research only focuses on salt farming business. So that the cost of the production factor aspect of the salt pond business includes the cost of rent, maintenance of tools, cost electricity and labor.

To determine the factors affecting the productivity of salt pond land. The OLS method is used with the following equation or estimation (Gujarati, 2006):

$$Y = \alpha X_1^{\beta_1} X_2^{\beta_2} X_3^{\beta_3} X_4^{\beta_4} X_5^{\beta_5} \dots$$

The equations in this study are described as follows based on the research variables:

$$Y = \alpha X_1^{\beta_1} X_2^{\beta_2} X_3^{\beta_3} X_4^{\beta_4} X_5^{\beta_5}$$

- Y = Production
- $\beta$  = Estimator
- X<sub>1</sub> = Field
- X<sub>2</sub> = Labour
- X<sub>3</sub> = Weather
- X<sub>4</sub> = Micro Finance Institution
- X<sub>5</sub> = Family Funding

## RESULTS AND DISCUSSION

Salt pond farming in Kertasada village, Kalianget sub-district, Sumenep district mostly uses intercropping or a combination of salt ponds and fisheries. During the dry season, landowners use their land to produce salt because natural factors are very supportive of the salt crystallization process. However, when the season changes to the rainy season, the farmers convert their land into fishery fields, starting from the cultivation of milkfish, shrimp and other brackish fish.(Agustin, 2016)

This is expected to increase the productivity of their land and reduce the risk of losses from salt farming. This effort is a form of diversification of farmers' income sources that can be developed in conditions of limited resources and uncertain factors in the success of cultivation. As reported in the case of developing marine aquaculture in the Philippines,(Salayo et al., 2012). The equipment used in the salt pond business is still traditional. Although there is still an increase in production capacity. Farmers are unable to increase production capacity due to limited capital, although currently there are several methods of producing salt using a screw filtration system.

Of the 45 respondents of this study. all respondents still use windmills because the cost factor is cheaper than using electric pumps or diesel pumps. Less maintenance and less capital. Other supporting equipment, on average, are still made of wood and used materials such as tolak (transport salt), sacks, drill (irrigation canals from used jerry cans and wood) and cylinders. One plot of salt ponds covering an area of 1 ha is usually done by 2-3 land cultivators. The initial payment system is usually the cultivators are given money as much as 500,000 – 1000,000. Rupiah. The payment system between the owner and the cultivator in general is profit sharing. Although it is possible to use a profit-sharing system from the aspect of the amount of salt. In carrying out their business, farmers must incur costs including fixed costs and variable costs. This is important to estimate the income level of salt farmers

Table 1 Average Fixed Cost of Salt Farming Business with an Area of 1 Hectare/Year

No	Description	Amount	Percentage
1	Cost Rent Fiekd	Rp. 10.347.500	83,7 %
2	Lanf Tax	Rp. 120.340	0,97 %
3	Soil Preparation Cost	Rp. 0	0%
4	Depreciation Tools Cost	Rp. 1.754.000	14,19 %
5	Maintance Tools Cost	Rp. 130.300	1,05 %
	Total	Rp. 12.352.140	100 %

Table 2 Average Variable Cost of Salt Pond Business with an Area of 1 Hectare/Year

No	Description	Amount	Percentage
1	Labour Cost	Rp. 20.230.000	92,9 %
2	Cost Fuel	Rp. 1.536.000	7,1 %
	Total	Rp. 21.766.000	100 %

Revenue is obtained from the sale of salt. The production value is obtained from the total salt production) multiplied by the selling price (Rp). The selling price depends on the quality of the production and the market price this year, the average selling price is 550,000 per ton. Revenue is obtained from the difference between receipts and total costs. Total revenue is obtained from total revenue plus total costs. With an average in one hectare capable of producing about 85.3 tons per ha once the harvest cycle. The following is the acceptance table:

Table 3 Income Per Ha

No	Description	Amount
1	Total Revenue	Rp. 46.915.000
2	Total Cost	Rp. 34.118.140
	Net Income	<b>Rp. 12.796.860</b>

This study uses the revenue function with two main things, namely model specifications and reliable data. In the characteristics of the data required that meet the criteria in this study. Factors that affect the income of salt farmers in the paper village, Kalianget sub-district, Sumenep district. Covering Land Area, Labor, Weather and Capital (Microfinance Institutions. The results of the Cob Douglas analysis obtained the following equations:

$$Y = 19,349 + \text{Land} + \text{Labor} + \text{Weather} + \text{Microfinance Institutions}$$

Table 4. T-Test Results of Regression Coefficient of Influencing Factors Salt Production in Kalianget Sub-district in 2021

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	19,349	121,326	11.8237	0.0000
X1	-18.81403	6.244826	-3.012739	0.0039
X2	0.003367	0.007435	0.452843	0.6525
X3	0.002837	0.004859	0.583879	0.5617
X4	-762.9067	479.8952	-1.589736	0.1177
X5	-0.052657	0.009058	-5.813395	0.0000
R-squared	0.645277	Mean dependent var	688.3545	
Adjusted R squared	0.612432	SD dependent var	47.90238	
SE of regression	29.82159	Akaike info criterion	9.722982	
Sum squared resid	48023.68	Schwarz criterion	9.932416	

From the results of the equation t test. land has a positive effect on the production of salt farmers. Some of their salt farmers rent land. The average rental fee per hectare is around Rp. 10,347,000. so that farmers experience difficulties if they want to increase production capacity. The results of research conducted by Saihani (2011) which shows that there is an influence of land area on the income earned by farmers. The reduced land area will result in a decrease in production results if you do not use intensive technology in the production process

Labor has a positive effect on the production of salt farmers significantly. This happens because the aspects of the workers in the salt farms are not only managers but also porters who carry salt from ponds to middlemen. As well as in the aspect of wages, almost all of the owners

and workers use a profit-sharing system. In general, 1 ha is managed by 2-3 workers. With a profit-sharing system, this is one way to diversify the risk of salt farming business. The characteristics of salt pond workers are kinship, so this is in accordance with research Cox (2008) states that households in developing countries depend a lot on friendship and family relationships for their livelihoods, even in terms of economic distribution.

Weather is one of the success factors in the production of salt ponds, the results of weather research have a significant positive effect on the results of salt production. The salt pond business in Madura is still using traditional techniques that rely on weather (sunlight intensity and wind speed). The longer the dry season, it is certain that the production of salt farmers will increase. But the current condition is with global climate change. So salt farmers have difficulty in making the right decisions regarding salt farming business. Climate conditions that change continuously will affect the production and income of salt farmers in the future. Projections on global food production and climate change trends in the tropics shows the potential negative impact of these changes on both production and socio-economic aspects (Alidu et al., 2022)

The aspect of capital from microfinance institutions and family funding in this study uses a dummy variable. The existence of capital from microfinance institutions has no significant effect on salt farming business. This is because farmers rarely get capital loans from MFIs. Several respondents stated that accessing MFI capital is more bureaucratic and the aspect of loan collateral is monthly. Meanwhile, the income of salt farmers is based on production which has no certainty of profit value. Salt farmers prefer to borrow from relatives, relatives and middlemen because the collateral system is based on profit sharing and is more flexible. Farmers can pay off the debt. So that getting a capital loan from information institutions (middlemen, family funding) is something that most salt farmers do.

The results of the study indicate that as many as 80% of respondents have never had access to capital from an MFI. 20% of farmers get a capital loan of under 10 million with a tenor of around 18-24 months. Capital is important in increasing the productivity of salt farmers. Wage system when starting land cultivation. Cultivators usually get paid first. The term *bon* 500,000-100,000 at the beginning of cultivating the land. This becomes the burden of the land owner so that the role of business capital assistance becomes important. The greater the business capital used will be followed by an increase in operating income, the assumption is that with a large capital, the business owned will allow an increase in the type of production, so that it will attract buyers and be able to increase the income of a business (Salayo et al., 2012)

## CONCLUSION

Based on research results. Farmers still do not get services or access capital for their business. Microfinance institutions that should play a role in assisting the traditional agricultural sector does not play a significant role in the farmer's economy.

While the agricultural sector is one of the businesses whose success depends on nature. This is very vulnerable to the income of farmers. Most of the farmers get access to capital from the family (family funding) and borrow from the skipper/salt middleman. They argue that ease of access and unemployment are their basis for borrowing. If at microfinance institutions, the capital installments are paid in installments every month, while in the case of borrowing from families or middlemen. They can pay in installments when they have harvested the salt.

Microfinance institutions that should have a large enough role in poverty alleviation through access to capital cannot perform its role as should be. So that partnerships and institutions are needed that are indeed accommodating the wishes of the farmers. So that they farmers will not be tied to the middlemen regarding the determination of the selling price of salt. This is important so that farmers can achieve independence in terms of financial ability.

From the aspect of family funding. Families play a big role, especially nuclear families who have businesses outside of salt farming. Some farmers get a loan of under 10 million for a salt pond business with a land area of less than 2 ha. The farmers also use the salt ponds to

become milkfish and shrimp ponds when the seasons change. This is done in order to maximize land productivity and not depend on just one salt commodity whose market price tends to fluctuate at the level of middlemen and natural factors that sometimes also affect salt production.

The role of salt farmers' institutions is very important in achieving independence and farmer welfare. The institution does not only act as a facilitator of salt business capital. However, it is also expected to be part of the training facilitator for sustainable salt business empowerment with various kinds of salt processing technology so that productivity in each ha of land increases and the quality of all salt products meets K1 salt standards.

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