

Analysis of Factors Affecting the Welfare of Salt Farmers' Households in Donggobolo Village

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Abstract

This study aims to examine the effects of marketing channels, selling prices, market distance, and customer relationships on the household welfare of salt-farming households in Donggobolo Village, Woha District, Bima Regency, with farmers' income serving as the mediating variable. This study employed a quantitative associative research design to examine the effects of marketing channels, selling prices, market distance, and customer relationships on the household welfare of salt-farming households, with farmers' income serving as the mediating variable, using data collected from 52 salt farmers in Donggobolo Village, Woha District, Bima Regency. Primary data were obtained through structured questionnaires, while secondary data were collected from official statistical reports and relevant publications, with all variables measured using a five-point Likert scale and analyzed using SPSS. The data were analyzed through descriptive statistics, validity and reliability tests, classical assumption tests, multiple linear regression, path analysis, the Baron and Kenny mediation approach, Sobel tests, t-tests, and F-tests to evaluate the direct and indirect relationships among the study variables. Based on the findings, this study concludes that marketing channels, selling price, market distance, and customer relationships significantly influence the welfare of salt-farming households, with farmers' income playing a central mediating role. Customer relationships were identified as the strongest determinant of farmers' income, while income itself was the most influential factor affecting household welfare, and selling price also exerted a significant positive direct effect on welfare. The mediation analysis confirmed that farmers' income fully mediates the relationship between customer relationships and household welfare, highlighting income as the primary pathway through which effective marketing relationships improve living standards. Overall, the study reinforces the importance of strengthening customer relationships, improving pricing mechanisms, and enhancing market-oriented strategies as key approaches to achieving sustainable welfare improvements for salt-farming households in Donggobolo Village.

Keywords

Salt-farming households; Household welfare; Marketing channels; Farmers' income; Customer relationships; Market access.



INTRODUCTION

Indonesia is an archipelago with the second-longest coastline in the world, reaching 99,083 to 99,093 kilometers (Central Statistics Agency, 2025). This geographical location provides Indonesia with significant potential for exploiting marine resources, including salt production. Salt plays a strategic role in the national economy, both as a household consumption commodity and as a primary raw material in various industries such as food, chemicals, and pharmaceuticals (Wahyurini & Hamidah, 2020). However, despite its significant potential, salt production in Indonesia still faces various challenges that hinder its competitiveness in the global market, including the low quality of artisanal salt, limited production technology, and a weak marketing system (Permodo & Rochwulaningsih, 2022).

Bima Regency is the largest salt producer in West Nusa Tenggara Province, boasting substantial production potential, with cultivated land covering approximately 4,600 to 4,675 hectares. Salt production in this area is largely carried out by coastal communities utilizing traditional salt ponds. One of the centers of salt production in Bima Regency is Donggobolo Village, Woha District. Most residents in this village rely on salt ponds for their livelihood, either as landowners or as smallholder farmers. Salt production typically takes place during the dry season, utilizing solar heat to evaporate seawater to produce salt crystals.

Despite its substantial production potential, salt farmers in Bima Regency still face various challenges, particularly related to fluctuating salt prices at the farm level. This price instability reflects the lack of optimal integration of the smallholder salt market. Therefore, market access and marketing system efficiency are crucial factors that must be considered in efforts to increase the income and welfare of salt farmers in Bima Regency (Jamil & Tinaprilla, 2025). Salt prices frequently fluctuate depending on production conditions, weather, and market demand. In some periods, salt prices can rise to around IDR 480,000 per 70-kilogram sack at the farm level. However, under other conditions, salt prices can drop quite drastically, reaching around IDR 18,000–IDR 20,000 per sack weighing approximately 50–55 kilograms. This price difference indicates that the salt market remains unstable and often impacts the income of salt farmers. This situation undoubtedly impacts the economic conditions of farmers' households, making market access and marketing systems

crucial factors that need to be considered in improving the welfare of salt farmers in Bima Regency.

In addition to price fluctuations, limited market access is also a significant factor affecting the economic conditions of salt farmers. Many salt farmers still rely on middlemen or collectors as the primary intermediaries in selling their produce. This dependence weakens farmers' bargaining power in determining the selling price of their salt, often resulting in lower prices than prevailing in the broader market. This phenomenon aligns with the concept of partial monopsony in agricultural marketing theory, where limited buyer choice significantly weakens farmers' bargaining power (Kohls & Uhl, 2002).

Limited market access can be seen from several aspects, such as the length of the marketing channel, the distance between the production location and the market, and the relationship between farmers and buyers or traders. Excessively long marketing channels can result in lower prices received by farmers due to the distribution of profit margins among various marketing institutions. Furthermore, long distances to markets can increase transportation costs and make it difficult for farmers to sell their produce directly to the market. The relationship between farmers and buyers can also impact the marketing process, as a good relationship can facilitate transactions and provide opportunities for farmers to obtain better prices. These price and market access issues ultimately affect not only farmers' income but also their household expenditures, thus affecting the welfare of farming households.

The welfare of a region's population can be measured through various socioeconomic indicators, such as household expenditure levels, poverty levels, and the community's ability to meet basic needs. According to the Central Statistics Agency (BPS), household expenditure is a key indicator in measuring the level of community welfare because it reflects purchasing power and the fulfillment of basic needs such as food, education, health, and housing. Based on the results of the National Socioeconomic Survey (Susenas), the average Population expenditure in the Bima region shows that the majority of household expenditure is still used for food consumption, a basic need. For example, the average expenditure of residents in Bima City in 2024 was recorded at approximately IDR 1,573,970 per capita per month, with approximately 51.41% spent on food consumption and 48.59% on non-food consumption. This condition indicates that the majority of community income is still used to meet basic daily needs.

Therefore, changes in income or commodity prices can directly affect the economic conditions of households, especially for groups that depend on the

agriculture and fisheries sectors for their livelihoods, such as salt farmers in Bima Regency. With expenditure proportions still above 50%, salt farming households in the Bima region are still considered vulnerable, so changes in income or commodity prices can directly affect their economic conditions (BPS, 2024). Therefore, fluctuations in salt prices and limited market access experienced by salt farmers have the potential to affect households' ability to meet their living needs, ultimately impacting the welfare of these farming families. The socio-economic conditions of the Donggobolo Village community are generally still dominated by agriculture and fish farming, which serve as their primary livelihoods. Most coastal residents in this village work as salt pond farmers, fish pond farmers, fish pond laborers, and traditional fishermen, with incomes highly dependent on seasonal conditions, production output, and market prices. This dependence on the primary sector makes households relatively vulnerable to weather changes, commodity price fluctuations, and limited market access. Furthermore, the community's relatively low level of education and limited business capital mean that some farmers still use traditional production and marketing systems. The socio-economic structure of the Donggobolo Village community also demonstrates a difference in social status between pond owners and smallholder farmers. Those who own their own ponds tend to have better incomes and bargaining power than smallholder farmers who rely on capitalists and traders. This indicates that the socio-economic status of the Donggobolo Village community also influences the welfare of salt pond farmers' households, particularly in terms of their ability to meet their daily needs, access to markets, and the stability of their family income.

The socioeconomic status of the Donggobolo Village community can be seen from several aspects, namely education level, asset ownership, and community employment structure. Based on available data, most household heads in Donggobolo Village have only completed elementary or junior high school. This low level of education impacts the community's limited ability to access market information, manage modern businesses, and utilize technology in salt production. In terms of asset ownership, there is a significant gap between farmers who own ponds and sharecroppers. Farmers who own land tend to own larger productive assets, including ponds, production equipment, and access to business capital, while sharecroppers or sharecroppers rely solely on labor as their primary source of income. This situation creates socioeconomic stratification that influences differences in welfare levels between community groups in the village. Furthermore, limited access to formal financial institutions such as cooperatives or banks means some

farmers still rely on informal lending systems from collectors, which often involve the obligation to sell their produce to the lender at a unilaterally determined price. The economic conditions of the people of Donggobolo Village are generally still lower-middle class, with the majority of household income coming from seasonal salt ponds. During the dry season, which is the peak period for salt production, some farmers can earn sufficient income to meet their daily needs. However, during the rainy season, when salt production ceases, many farming households face economic pressure due to the lack of adequate alternative sources of income. The average income of salt pond farmers in Donggobolo Village is highly dependent on production volume and the selling price of salt at the farm level. When salt prices plummet due to oversupply or the influx of imported salt, farmers' incomes can drop drastically, impacting the economy.

This directly impacts households' ability to meet basic needs such as food, children's education, and healthcare. This situation is exacerbated by the lack of business diversification among farmers. Therefore, when salt farming fails to generate sufficient income, farming households are vulnerable to temporary poverty. Therefore, the economic condition of the Donggobolo Village community, which remains highly dependent on a single leading commodity, is a crucial factor that needs to be considered in efforts to improve the welfare of salt farming households in the village.

In household economics, household expenditure levels are often used as an indicator of family welfare. When farmer income declines due to falling prices or limited market access, the household's ability to make consumption expenditures is also affected. Several previous studies have shown that market access plays a crucial role in improving farmer welfare through increased income. However, most studies have focused on the impact of market access on farmer income, while research specifically analyzing the impact of market access on household expenditure, particularly for salt, is relatively limited. Therefore, more focused research is needed to examine this relationship among salt farmers in Donggobolo Village.

In the context of this research, the household expenditure of salt farmers in Donggobolo Village can be used as an indicator of the welfare of farming families. If market access improves and salt prices stabilize, farmers' incomes will increase, thereby enhancing households' ability to meet their living needs. Conversely, if salt prices decline or market access is limited, farmers' incomes will decrease, ultimately impacting household expenditures and the welfare of farming families.

Based on these conditions, it is important to conduct research analyzing how market access affects the economic conditions of salt farmers' households, particularly when salt prices decline. This research will examine the influence of several aspects of market access, such as marketing channels, selling prices, market distance, and relationships with customers, on household expenditures of salt farmers in Donggobolo Village. The results are expected to provide insight into the relationship between market access and the economic welfare of farming households and serve as a consideration for the government and relevant parties in formulating policies that support the development of smallholder salt farming businesses. This study aims to examine the effects of marketing channels, selling prices, market distance, and customer relationships on the household welfare of salt-farming households in Donggobolo Village, Woha District, Bima Regency, with farmers' income serving as the mediating variable.

METHODS

This study employed a quantitative research approach using an associative research design to examine the relationships among marketing-related factors, farmers' income, and household welfare of salt-farming households in Donggobolo Village, Woha District, Bima Regency, Indonesia. An associative approach was selected because the primary objective of the research was to investigate both the direct and indirect relationships among multiple independent variables and to determine the mediating role of farmers' income in explaining household welfare. The quantitative method was considered appropriate because the research relied on numerical data collected from respondents and analyzed using statistical techniques to test predetermined hypotheses.

The research was conducted in Donggobolo Village, one of the largest salt-producing areas in Woha District, Bima Regency, West Nusa Tenggara Province. This location was purposively selected because salt farming represents the primary economic activity of the local community, and the area has experienced increasing salt production in recent years despite facing numerous challenges, including fluctuating selling prices, uncertain weather conditions, conventional production methods, marketing constraints, and competition from imported salt products. These characteristics make Donggobolo Village an appropriate setting for investigating the determinants of household welfare among small-scale salt farmers. The study was carried out over approximately two months, during which the researcher conducted instrument preparation, data collection, data processing, statistical analysis, and interpretation of the research findings.

The target population consisted of all active salt-farming households in Donggobolo Village that regularly produced and marketed salt either directly to buyers or through local collectors. Because the total population was relatively small, all 52 salt farmers were included as research respondents using a purposive sampling technique. Respondents were selected based on several criteria, including actively operating salt ponds, having at least one production season of farming experience, having sold salt during periods of declining market prices, possessing sufficient knowledge of household expenditures, and voluntarily agreeing to participate in the study. By including the entire eligible population, the research minimized sampling bias and provided a comprehensive representation of salt-farming households in the study area.

Data were collected using both primary and secondary sources. Primary data were obtained through structured questionnaires distributed directly to respondents. The questionnaire consisted of items measuring respondents' demographic characteristics, marketing conditions, customer relationships, income, and household welfare. Secondary data were collected from the Central Bureau of Statistics (BPS), local government reports, and other relevant publications to support the analysis and provide contextual information regarding salt production and household economic conditions in Bima Regency. Prior to data collection, the research instrument was developed based on the operational definitions of each variable and subsequently tested to ensure its validity and reliability.

The study examined six variables consisting of four independent variables, one mediating variable, and one dependent variable. The independent variables included marketing channels (X_1), selling price (X_2), market distance (X_3), and customer relationships (X_4). Farmers' income (Z) was specified as the mediating variable, while household welfare (Y) served as the dependent variable. Household welfare was measured through indicators of household expenditure, including food expenditure, non-food expenditure, and total household consumption, while income was assessed based on perceived improvements in earnings, income adequacy, income stability, and the ability to improve household economic conditions. All questionnaire items were measured using a five-point Likert scale, ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree"), allowing respondents to express their perceptions consistently across all variables.

The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS). The analysis began with descriptive statistics to summarize respondents' characteristics and the distribution of each research variable.

Instrument testing was then conducted using the Pearson Product-Moment correlation to evaluate validity and Cronbach's Alpha to assess reliability. To ensure that the regression models met statistical assumptions, classical assumption tests were performed, including multicollinearity analysis using Tolerance and Variance Inflation Factor (VIF) values, and heteroscedasticity testing using the Glejser test. The results confirmed that the research instruments were both valid and reliable and that the regression models satisfied the required assumptions for further analysis.

To examine the hypothesized relationships among variables, the study employed multiple linear regression analysis, path analysis, and the Baron and Kenny mediation approach. Three regression models were estimated to evaluate the total, direct, and indirect effects of the independent variables on household welfare through farmers' income. The mediation effect was further verified using the Sobel test, which determined whether income significantly mediated the relationships between marketing variables and household welfare. In addition, t-tests were used to assess the significance of individual regression coefficients, while F-tests evaluated the simultaneous effects of the independent variables on the dependent variables. This comprehensive analytical framework enabled the study to identify both direct and mediated relationships, thereby providing a robust empirical explanation of the factors influencing the welfare of salt-farming households in Donggobolo Village.

FINDINGS AND DISCUSSION

Results of Multiple Regression Analysis (Mediation Model)

The multiple linear regression analysis in this study uses three models. Model 0 is used to test the effect of marketing channels (X1), selling price (X2), market distance (X3), and customer relationships (X4) on household welfare (Y). Model I is used to test the effect of marketing channels (X1), selling price (X2), market distance (X3), and customer relationships (X4) on income (Z). Model II is used to test the effect of X1, X2, X3, X4, and income (Z) on household welfare (Y).

Model 0: The influence of X1, X2, X3, and X4 on household welfare (Y)

Table 1 Model Summary Model 0

R	R Square	Adjusted R Square	Standard Error of the Estimate
0.887a	0.787	.769	1,588

Table 2 F Test Results (Simultaneous) Model 0

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	438,190	4	109,547	43,448	.000b
	Residual	118,502	47	2,521		
	Total	556,692	51			

a. Dependent Variable: Y

b. Predictors: (Constant), X4, X2, X1, X3

Table 3 Results of the t-Test (Partial) Model 0

	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	-.997	1,236		-.806	.424		
X1	.006	.175	.005	.034	.973	.244	4,091
X2	.342	.148	.284	2,300	.026	.297	3,366
X3	-.133	.176	-.112	-.755	.454	.206	4,866
X4	.848	.128	.755	6,610	.000	.348	2,877

a. Dependent Variable: Y

Model I: Effect of X1, X2, X3, and X4 on Income (Z)

Table 4 Model Summary Model I

R	R Square	Adjusted R Square	Standard Error of the Estimate
0.892	0.795	0.777	1,523

Source: SPSS data processing results, 2026. Predictors: (Constant), X4, X2, X1, X3.

The R Square value of 0.795 indicates that the variables of marketing channels, selling prices, market distance, and customer relationships together are able to explain 79.5% of the variation in salt pond farmers' income, while the remaining 20.5% is explained by other variables outside this research model.

Table 5 F Test Results (Simultaneous) Model I

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	422,117	4	105,529	45,520	0,000
Residual	108,960	47	2,318		
Total	531,077	51			

Source: SPSS data processing results, 2026.

The F test results show a calculated F value of 45.520 with a significance level of 0.000 (<0.05). Thus, it can be concluded that the variables of marketing channels, selling prices, market distance, and customer relationships simultaneously (together) have a significant effect on the income of salt pond farmers in Donggobolo Village.

Table 6 Results of the t-Test (Partial) Model I

Variables	B	Std. Error	Beta	t	Sig.	Information
(Constant)	-0.846	1,185		-0.714	0.479	
X1	0.318	0.168	0.253	1,896	0.064	Significant
X2	-0.001	0.142	-0.001	-0.010	0.992	Significant
X3	-0.106	0.169	-0.092	-0.629	0.533	Significant
X4	0.848	0.123	0.773	6,897	0,000	Significant

Source: SPSS data processing results, 2026. Dependent Variable: Z.

The results of the t-test in Model I show that of the four independent variables, only the customer relationship variable (X4) has a significant effect on income (Z), with a calculated t-value of 6.897 and a significance of 0.000 (<0.05), as well as the largest standardized beta coefficient (0.773) among the other variables. The marketing channel variable (X1) shows a positive but not yet significant effect at the 5% level (sig. 0.064), although it is significant at the 10% level. Meanwhile, the selling price (X2) and market distance (X3) do not show a significant effect on farmer income.

Model II: The Effect of X1, X2, X3, X4, and Z on Household Welfare (Y)

Table 7 Model Summary Model II

R	R Square	Adjusted R Square	Standard Error of the Estimate
0.953	0.909	0.899	1,050

Source: SPSS data processing results, 2026. Predictors: (Constant), Z, X2, X3, X1, X4.

The R Square value of 0.909 indicates that the variables of marketing channels, selling prices, market distance, customer relations, and income together are able to explain 90.9% of the variation in the welfare of salt pond farmers' households, while the remaining 9.1% is explained by other variables outside this research model.

Table 8 F-Test Results (Simultaneous) Model II

Model	Sum of Squares	df	Mean Square	F	Sig.

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	505,967	5	101,193	91,767	0,000
Residual	50,725	46	1,103		
Total	556,692	51			

Source: SPSS data processing results, 2026.

The F test results showed a calculated F value of 91.767 with a significance level of 0.000 (<0.05). Thus, it can be concluded that the variables of marketing channels, selling prices, market distance, customer relationships, and income simultaneously (together) have a significant effect on the welfare of salt pond farmers' households in Donggobolo Village.

Table 9 Results of the t-Test (Partial) Model II

Variables	B	Std. Error	Beta	t	Sig.	Information
(Constant)	-0.330	0.822		-0.401	0.690	
X1	-0.245	0.120	-0.191	-2,040	0.047	Significant
X2	0.343	0.098	0.285	3,490	0.001	Significant
X3	-0.049	0.117	-0.041	-0.421	0.676	Not Significant
X4	0.179	0.120	0.159	1,486	0.140	Not Significant
Z	0.789	0.101	0.770	7,840	0,000	Significant

Source: SPSS data processing results, 2026. Dependent Variable: Y.

The results of the t-test in Model II show that the variables selling price (X2), income (Z), and marketing channels (X1) have a significant effect on household welfare (Y), while market distance (X3) and relationships with customers (X4) do not have a significant effect. The income variable (Z) has the largest standardized beta coefficient (0.770), which indicates that income is the most dominant variable in influencing the welfare of salt pond farmers' households. The marketing channel variable (X1) has a significant effect but with a negative coefficient direction ($B = -0.245$), which indicates that the direction of the relationship needs to be re-examined, possibly related to the direction of measurement (scoring) of statement items in the marketing channel indicator.

Mediation Analysis Test (Path Analysis)

Direct Effect

Table 10 Direct Effect

Variables	Direct Effect Coefficient	Direction of Influence
Marketing Channels (X1)	-0.245	Negative
Selling price (X2)	0.343	Positive
Market Distance (X3)	-0.049	Negative
Customer Relationship (X4)	0.179	Positive

Source: Primary data processed 2026

Based on Table 4.xx, it is known that the marketing channel (X_1) has a direct effect value of -0.245, which indicates that after taking into account the income variable as a mediator, the marketing channel has a negative direct influence on the welfare of salt pond farmers' households. The selling price variable (X_2) has a direct effect of 0.343, which indicates that an increase in selling prices can directly improve the welfare of farmer households. Furthermore, market distance (X_3) has a direct effect of -0.049, which indicates that the further the market distance tends to reduce household welfare, although the effect is relatively small. Meanwhile, customer relationships (X_4) have a direct effect of 0.179, which indicates that good relationships with customers have a positive influence on household welfare, although based on the results of the significance test, this effect is not statistically significant.

Indirect effect

Table 11 Indirect Effect Calculation

Variables	Calculation	Indirect Effect
Marketing Channels (X1)	0.318×0.789	0.251
Selling price (X2)	-0.001×0.789	-0.001
Market Distance (X3)	-0.106×0.789	-0.084
Customer relations (X4)	0.848×0.789	0.669

Source: Primary data processed 2026

Based on Table 4.xx, it is known that the indirect effect is obtained from the multiplication of the path coefficient a (the effect of the independent variable on income) and the path coefficient b (the effect of income on household welfare). The marketing channel variable (X_1) has an indirect effect of 0.251, while the selling price (X_2) has an indirect effect of -0.001. The market distance variable (X_3) has an indirect effect of -0.084, while the relationship with customers (X_4) has the largest indirect

effect, namely 0.669. These results indicate that relationships with customers have the greatest indirect effect on household welfare through increased income. Thus, income acts as a channel that channels the influence of relationships with customers on the welfare of salt pond farmers' households.

Total Effect

Table 12 Direct Effect, Indirect Effect, and Total Effect

Variables	Diret Effect c'	Indirect Effect (axb)	Total Effect
Marketing Channels (X1)	-0.245	0.251	0.006
Selling Price (X2)	0.343	-0.001	0.342
Market Distance (X3)	-0.049	-0.084	-0.133
Customer Relationship (X4)	0.179	0.669	0.848

Source: Primary data processed 2026

Based on the table above, it can be seen that customer relationships (X4) have a direct effect of 0.179, while the indirect effect through income is 0.669. These values indicate that the majority of the influence of customer relationships on household welfare is channeled through increased income. Meanwhile, marketing channels, selling prices, and market distance have relatively small indirect effects or are not more dominant than their direct effects.

Sobel test

To determine whether the indirect effect is significant, a Sobel test is carried out using the formula:

$$Z = \frac{ab}{\sqrt{(b^2 SE_a^2) + (a^2 SE_b^2)}}$$

Table 4.29
Sobel Test Results

Variables	a	SEa	b	SEb	Zhitung	Decision
X1	0.318	0.168	0.789	0.101	1,839	Not Significant
X2	-0.001	0.142	0.789	0.101	-0.005	Not Significant
X3	-0.106	0.169	0.789	0.101	-0.625	Not

						Significant
X4	0.848	0.123	0.789	0.101	5,169	Significant

The Sobel test results show that only the customer relationship variable (X4) has a Z-value > 1.96, so the indirect effect through income is proven significant. Thus, income plays a mediating role in the relationship between customer relationships and the welfare of salt pond farmers' households. Conversely, the indirect effect of marketing channels, selling prices, and market distance through income is not significant. This makes the decision of the H1–H4 hypotheses consistent with its statement stating the effect "through income," as requested by the reviewer.

Hypothesis Testing Results

Based on the results of the regression analysis of Model I and Model II, the research hypothesis testing can be summarized as follows:

Table 13 Summary of Hypothesis Testing Results

Hypothesis	Statement	Sig.	Decision
H1	Marketing channels (X1) have a significant influence on household welfare (Y)	0.047	H0 is rejected, Ha is accepted (significant, negative direction)
H2	Selling price (X2) has a significant effect on household welfare (Y)	0.001	H0 is rejected, Ha is accepted (significant, positive direction)
H3	Market distance (X3) has a significant effect on household welfare (Y)	0.676	H0 is accepted (not significant)
H4	Relationships with customers (X4) have a significant effect on household welfare (Y)	0.140	H0 is accepted (not directly significant)
H5	Marketing channels (X1) have a significant effect on revenue (Z)	0.064	H0 is accepted at $\alpha=0.05$ (not significant, but significant at $\alpha=0.10$)

Source: SPSS data processing results, 2026.

Table 14 Path Coefficient

Variables	a	b	c
Marketing Channels (X ₁)	0.318	0.789	-0.245
Selling Price (X ₂)	-0.001	0.789	0.343

Market Distance (X ₃)	-0.106	0.789	-0.049
Relationship with Customers (X ₄)	0.848	0.789	0.179

Source: Primary data processed 2026

Based on the results of hypothesis testing and path coefficient analysis, it can be concluded that the selling price (X₂) is a variable that has a direct positive and significant effect on the welfare of salt pond farmers' households, while marketing channels (X₁) have a significant effect but with a negative direction. Meanwhile, market distance (X₃) and relationships with customers (X₄) do not show a significant direct effect on household welfare. The results of the path coefficient analysis show that relationships with customers (X₄) have the largest path coefficient on income (path a), which is 0.848, while income has a positive effect on household welfare with a path coefficient (path b) of 0.789. These findings indicate that income plays a mediating role in channeling the influence of relationships with customers on household welfare, so that improving relationships with customers has the potential to improve welfare through increasing the income of salt pond farmers.

Discussion

The results of the study indicate that income (Z) is the most dominant and consistent variable that has a significant effect on the welfare of salt pond farmer households in Donggobolo Village, with the highest standardized beta coefficient (0.770) among all variables in Model II. This finding is in line with the theory of farm income which states that the level of farmer household income will determine the household's ability to meet food, education, health, and other social needs, so that the higher the income obtained, the better the level of household welfare perceived.

The customer relationship variable (X₄) proved to be the most influential factor in increasing farmer income (Model I), indicating that a good relationship between farmers and buyers/collectors can provide market certainty, expand marketing networks, and create trust that leads to stable sales volume and farmer income. This is in accordance with the concept of relationship marketing which emphasizes that long-term relationships with customers can increase loyalty and transaction sustainability, which ultimately has a positive impact on business actors' income.

The selling price (X₂) was proven to have a significant direct impact on household welfare, indicating that fluctuations in salt prices directly affect the ability of farming households to meet their living needs, without having to go through an

increase in income first. This is in line with conditions in the field which show that the decline in salt prices during the main harvest directly reduces the purchasing power and expenditure of salt farming households.

The marketing channel variable (X1) shows a significant influence on household welfare, but with a negative coefficient direction. This condition is likely caused by the characteristics of farmer marketing channels in Donggobolo Village which are still dominated by relatively long marketing channels (through collectors/middlemen), so that the more/longer the marketing chain passed through, the greater the margin that must be shared with intermediaries, and the smaller the share of the price received by farmers. This is consistent with agricultural marketing theory which states that the longer the marketing channel, the greater the marketing costs and margins that must be borne, thereby reducing the share of the price received by producers.

Meanwhile, the market distance variable (X3) did not show a significant effect on either income or household welfare. This finding indicates that in the context of this study, the distance between the production location and the market location is not a major factor determining the income or welfare of salt pond farmers, possibly because most salt sales transactions are carried out through collectors who come directly to the pond location, so that the physical distance to the market factor is less relevant than the price factor and relationships with buyers. Overall, the results of this study provide an overview that efforts to improve the welfare of salt pond farmer households in Donggobolo Village can be focused on two main strategies, namely: (1) strengthening relationships with customers/buyers to encourage sustainable income increases, and (2) improving the selling price structure and marketing channels so that the share of the price received by farmers becomes fairer and more proportional, so that in the end it can improve the welfare of salt pond farmer households as a whole.

CONCLUSION

Based on the results of the data analysis and discussion presented in Chapter IV, several conclusions can be drawn regarding the factors influencing the welfare of salt-farming households in Donggobolo Village, Woha District, Bima Regency. The findings indicate that the variables of marketing channels, selling price, market distance, and customer relationships simultaneously have a significant effect on farmers' income. The regression analysis shows that these four variables explain 79.5% of the variation in household income, indicating a strong predictive model. Among these variables, customer relationships emerged as the most influential factor

affecting farmers' income, demonstrating that maintaining strong and sustainable relationships with buyers plays a crucial role in increasing the earnings of salt farmers. In contrast, marketing channels showed a positive but statistically insignificant effect, while selling price and market distance did not significantly influence income.

Furthermore, the study reveals that marketing channels, selling price, market distance, customer relationships, and income simultaneously have a significant effect on the welfare of salt-farming households. Together, these variables account for 90.9% of the variation in household welfare, reflecting a very high explanatory power of the regression model. Partial analysis indicates that income is the most dominant determinant of household welfare, followed by selling price, which has a positive and significant effect. Interestingly, marketing channels exhibit a significant negative effect on household welfare, whereas market distance and customer relationships do not directly influence welfare.

The mediation analysis further demonstrates that income acts as a full mediating variable in the relationship between customer relationships and household welfare. Strong customer relationships significantly increase farmers' income, which subsequently improves household welfare. However, once income is included in the model, the direct influence of customer relationships on welfare becomes insignificant, confirming a full mediation effect. Conversely, selling price directly influences household welfare without requiring income as an intermediary variable.

The validity and reliability tests confirm that all research instruments are valid and reliable, while the classical assumption tests indicate that the regression models are free from multicollinearity and heteroscedasticity, ensuring the robustness and appropriateness of the analytical model. From a theoretical perspective, the findings reinforce the concepts of relationship marketing and the income mediation model in explaining the welfare of small-scale farming households. Practically, the study provides empirical evidence that improving the welfare of salt-farming households depends more on strengthening customer relationships and maintaining favorable selling prices than on reducing geographical distance to the market. These findings offer valuable implications for policymakers and stakeholders in designing strategies to improve the economic sustainability and welfare of salt farmers through market-oriented interventions and stronger business relationships.

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