

Comparative Study Of The Management Of Vaname Shrimp (*Litopenaeus vannamei*) Based on Demographic Factors at Molang Beach Tulungagung

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Abstract—Sea has benefits to connct islands in Indonesia, which is one of the natural resources that is very potential to be empowered and can be used as one of the basic capitals of national development. The purpose of this study was to determine the correlation between strategy of management vaname shrimp (*Litopenaeus vannamei*) and respondents' ages, to know the difference of strategy of management vaname shrimp (*Litopenaeus vannamei*) based on respondents' genders, and to know the difference of strategy of management of vaname shrimp (*Litopenaeus vannamei*) based on respondents' education levels at Molang Beach Tulungagung. Demographic factors used are ages, genders, and education levels to determine the management strategy of vaname shrimp fishermen at Molang Beach Tulungagung. Molang Beach at Tulungagung was choosen as the research object because it has long beach line and it is managed and used as farming land. The results are the respondents' ages have a correlation with the strategy that used to manage vaname shrimp, strategy of management vaname shrimp (*Litopenaeus vannamei*) differs based on genders, and strategy of management vaname shrimp (*Litopenaeus vannamei*) differs based on levels of education at Molang Beach Tulungagung.

Keyword—Ages, Genders, Levels of education, Molang BeachTulungagung, Sea.

INTRODUCTION

The potential use of Indonesia's marine resources will not be sustainable when there is no conservation effort. One of conservation efforts is with the use of the beach as shrimp cropland. Selection of aquaculture on marine life such as shrimp because it is one of the marine lives that can be lived in high salinity levels and do not need complex treatment, able to adapt in low environmental temperature, and survival rates were high compared to tiger shrimp are susceptible to virus [1]. From the description above, the researchers conduct research on Comparative Study Management Vaname Shrimp (*Litopenaeus vannamei*) by Demographic Factors at Molang Beach Tulungagung.

Demographic factors covers ages, genders, levels education, and work experiences taken into account as a determinant of a person's entrepreneurial intentions [2]. With great benefits, available land, at Molang Beach Tulungagung was choosen as the research object because it has long line that was managed and used as cropland. It is clean, has good water quality, and has pH for about 7.5 to 8 so well used as cropland of vaname shrimp (*Litopenaeus vannamei*). This research was also supported by the increase of vaname shrimp production in 2015 amounted to 642 tons, this production increased 29.49% over the previous year. While the production value increased from 2014 where production value of Rp. 32.94423 billion or an increase of 38.43% due to the rising market price of first and second no farming land of vaname shrimp production in Pucanglaban Beach or Molang Beach area of 17 hectares with a number of 55 plots [3].

The purpose in this study are to determine the correlation between strategy of management vaname shrimp (*Litopenaeus vannamei*) and the respondents' age, to know the difference of management strategy of vaname shrimp (*Litopenaeus vannamei*) based on the respondents' genders, and to know the difference of management strategy of vaname shrimp (*Litopenaeus vannamei*) based on education levels at Molang Beach Tulungagung.

RESEARCH METHODS

The study was conducted by the method of direct observation of interviews to fishermen of vaname shrimp farming at Molang Beach Tulungagung. The question asked is about the use of the beach with vaname shrimp farming, vaname shrimp farming process, the reason for using vaname shrimp as farmed animals, and advantages as well as drawbacks do vaname shrimp farming on the coast and demographic factors including genders, ages, and education levels. The research was conducted in September 2015 at Molang Beach Tulungagung. It is located at the border between Blitar and South of

Tulungagung. The administrative border of the village is located in Plandirejo, Bakung, Blitar with Pucanglaban Village, Pucanglaban, Tulungagung.

The population in the study are all fishermen and managers of vaname shrimp at Molang Beach Tulungagung. All population is 90 people, for 10% error rate means using a sample of 68 people. In order to complete this study, researchers wanted to know about the specific and general overview of demographic factors on fishermen of vaname shrimp at Molang Beach Tulungagung. Samples in this study amounted to 68 people, according to all fishermen and managers of vaname shrimp farming at Molang Beach Tulungagung will be interviewed in private. The sampling technique used random sampling. Mechanical sampling of some fishermen and managers of shrimp farming vaname deemed capable of representing the whole fishermen of vaname shrimp and managers vaname shrimp at Molang Beach Tulungagung.

Data analysis on the three objectives of the study are different statistical tests. Before performing the statistical tests, it was conducted tests of normality and homogeneity. The collected data is it was not normal and was not homogeneous then the first objektivie using Spearman test. The Mann Whitney test is used by the second objective, and Kruskal Wallis test is used the third objective

RESULTS

Table 1. Test normality and homogeneity of correlation between shrimp management strategy of vaname at Molang Beach Tulungagung and the respondent's age

	N	Mean	Std. Deviation	Min	Max
Ages	68	32.44	5.99	23	45
Strategy	68	96.15	2.439	89	103

One-Sample Kolmogorov-Smirnov Test

	Ages	Strategy
N	68	68
Normal Parameters (a,b) Mean	32.44	96.15
Std. Deviation	5.399	2.439
Kolmogorov-Smirnov Z	0.160	0.230
Asymp. Sig. (2-tailed)	0.000	0.000

- a. Test distributin is not normal.
b. Calculated from data.

The samples used more than 50, then the normality test used is the Kolmogorov-Smirnov test. Due of the two variables is less than 0.05, it can be said the distribution two of variables are not normal. While p to test the homogeneity of management strategy of vaname shrimp at Molang Beach Tulungagung of 0.000 is less than 0.05 and it can be said that the variances of both variable are not homogeneous. For the next step to test the correlation of nonparametric Spearman correlation test as in Table 2.

Table 2. Spearman test between management of strategy vaname shrimp at Molang Beach Tulungagung and the respondent's age

Correlations		Age	Strategy
Spearman's rho	Age	1.000	-0.007
	Correlation Coefficient		
	Sig. (2-tailed)		0.955
	N	68	68
Strategy	Age	-0.007	1.000
	Correlation Coefficient		
	Sig. (2-tailed)	0.955	
	N	68	68

The results p of Spearman test between the age of the respondent and shrimp management strategy of vaname at Molang Beach Tulungagung is $0.955 > 0.05$. It can be concluded that there is a correlation between the respondent's ages and management strategy of vaname shrimp at Molang Beach Tulungagung.

Table 3. Mann Whitney test between shrimp management strategy of vaname at Molang Beach Tulungagung and respondents' genders

Ranks				
	Gender	N	Mean Rank	Sum of Ranks
Strategy	Females	8	28.00	224.00
	Males	60	35.37	2122.00
	Total	68		

Test Statistics ^a		Strategy
Mann-Whitney U		188.000
Wilcoxon W		224.000
Z		-1.016
Asymp. Sig. (2-tailed)		0.309

a. Grouping Variable: Gender

$p = 0,309$ means more than $\alpha = 0.05$, so it can be said that there are no differences in management strategy of vaname shrimp at Molang Beach Tulungagung based on respondents' genders.

Table 4. Kruskal Wallis test of difference between shrimp management strategy of vaname at Molang Beach Tulungagung and respondents' education levels

Ranks			
	Level of education	N	Mean Rank
Strategy	Elementary School	9	19.06
	Junior High School	24	31.94
	Senior High School	30	36.05
	D3	5	65.30
	Total	68	

Test Statistics ^{a,b}		Strategy
Chi-Square		19.202
Df		3
Asymp. Sig.		0.000

a. Kruskal Wallis Test

b. Grouping Variable: Level of education

$P = 0,000$ which is less than $\alpha = 0,05$, so it can be said that there are differences in management strategy of vaname shrimp at Molang Beach Tulungagung based on levels of education.

DISCUSSION

Demographic (population density), attitudes, knowledge, activities and ages influence someone to use and utilize the beach. Usually beach used by local residents around the coast utilization in accordance with the tidal of beach. Knowledge of local residents will greatly affect the way people around the utilized beach^[4]. Fishermen who cultivate vaname shrimp is the most widely have levels of education are elementary school-junior high school-senior high school-D3. The levels of education also affect the attitude for a person's attitude and explain behavioral intentions toward others. Overall in shrimp farming, fishermen education, training, age and

non-farm income had a positive impact on technical efficiency. The questionnaires given to fishermen of vaname shrimp at Molang Beach Tulungagung have result of management strategy of vaname shrimp at Molang Beach Tulungagung differ based on respondents' ages and education levels.

Based on the analysis of management strategy of vaname shrimp differs based on ages at Molang Beach Tulungagung is supported by the results of research conducted in India that shows the most of successful entrepreneur is their relatively young age^[5]. This is the same as the opinion of Kolvereid which states that a person aged 25-44 are the most active ages for entrepreneurship in the western countries^[6]. Indarti and Rostiani proved that many prospective entrepreneurs who have got a great responsibility at a young age although just like running a new business^[2]. Age coefficients are positive and significant with the technical efficiency of farmed vaname shrimp that show that older fishermen are better able to make appropriate decisions regarding management practices because they have experienced^[7].

Based on the analysis there were no differences in management strategy of vaname shrimp, but the number of dominant males are more than females. Influence of gender of the intentions of a person being an entrepreneur has been widely studied. In general, self-employed sector is a sector that is dominated by men. Kolvereid states that men found to have a higher entrepreneurial intentions than women^[6]. Gender social status depends on various socio-economic factors. This is due to the awareness of social values and attitudes towards various aspects of social and economic life. Men and women involved in the shrimp ponds as collecting seed shrimp, and shrimp farm workers. In addition, the involvement of men is more dominant than women. Men have more opportunities because of the presence of the existing norms^[8]. Even so, women also participate in improving the welfare of the family for the better. Therefore, the role of women in strategy management of vaname shrimp clearly shows that they are actively participating in their family affairs^[9]. Although there was no differences in management strategy of vaname shrimp at Molang Beach Tulungagung and respondents based on gender, but the number of fishermen vaname shrimp are dominant males for 60 and females for 8.

The education levels of a people influence management strategy of vaname shrimp, it is supported by a study from India which proves that the education levels became one of the important determinants of entrepreneurial intentions and the success of the business carried on^[5]. Another study, which examines women entrepreneurs found that women with a high education levels have a high achievement to become entrepreneurs^[10]. Educated fishermen are expected to follow the correct shrimp management practices, so that their efficiency is higher^[7].

CONCLUSION

The conclusion that can be drawn as follows. There is a correlation between management strategy of vaname shrimp (*Litopenaeus vannamei*) and the ages of respondents at Molang Beach Tulungagung. There is no difference of management strategy of vaname shrimp (*Litopenaeus vannamei*) based on respondents' education levels at Molang Beach Tulungagung. There is a difference of management strategy of vaname shrimp (*Litopenaeus vannamei*) based on respondents' education levels at Molang Beach Tulungagung.

ACKNOWLEDGMENT

The author would like to express their gratitude to Allah, parents, and our Lecturer, Mr. Sueb for his guidance. Our special thanks for Malang State University.

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