Analysis of Squid Net Fisheries Business Production

by Herry Boesono

Submission date: 04-Dec-2019 08:47AM (UTC+0700)
Submission ID: 1226453721
File name: C12-JEJAK_10_1.30-47.pdf (1.18M)
Word count: 8277
Character count: 41396

Jejak Vol 10 (1) (2017): 30-47. DOI: http://dx.doi.org/10.15294/jejak.v10i1.9125

JEJAK

Journal of Economics and Policy

http://journal.unnes.ac.id/nju/index.php/jejak

Analysis of Squid Net Fisheries Business Production

Herna Octivia Damayanti[1]✉, Indah Susilowati[2], Herry Boesono[3]

[1]Student of Master of Coastal Resources Management, Diponegoro University
[2]Faculty of Economics and Business, Diponegoro University
[3]Faculty of Marine and Fisheries, Diponegoro University

Permalink/DOI: http://dx.doi.org/10.15294/jejak.v10i1.9125

Received: July 2016; Accepted: September 2016; Published: March 2017

Abstract

Squid net is one of alternatives to replace trawl net in Pati regency. The purposes of the research are 1) to determine the influence factors, 2) to analyze the return to scale, 3) to analyze cost and return.The research location in Juwana Subdistrict particularly Bakaran Kulon, Dukutalit, Bajomulyo and Bendar Villages. The research conducted on October 2015 to June 2016. The number of final samples was 36, while the formulation of management strategies used 15 samples by snowball sampling. Data analysis techniques used 1) Cobb Douglas production function, 2) revenue-cost ratio analysis. The results of the research are 1) significant inputs for production factor are long trip, Solar fuel, the number of crew and lights. 2) the return to scale of squid net bussiness in Juwana subdistrict Pati regency is -0.231 means decreasing to scale. 3) the R/C ratio of scenario II more profitable for squid net crews than scenario I.

Key words : production-function, bouke-ami, Juwana, return-cost.

How to Cite: Damayanti, H., Susilowati, I., & Boesono, H. (2017). Analysis of Squid Net Fisheries Business Production. *JEJAK: Jurnal Ekonomi Dan Kebijakan*, 10(1), 30-47. doi:http://dx.doi.org/10.15294/jejak.v10i1.9125

✉ Corresponding author :
Address: Jl. Prof. Soedarto, Tembalang, Semarang, 50275, Central Java
E-mail: octivia_oc@yahoo.co.id

ISSN 1979-715X

INTRODUCTION

The growth of Indonesian aquaculture in 2009-2013 that is 29.78% higher than the average growth of marine fisheries 4.61% (Marine and Fisheries Ministry, 2014). For Central Java Province, the average growth of inland fisheries in 2009-2013 25.96% while the average growth of marine fisheries 4.09% (Statistics of Central Java province, 2014).

Special for marine fisheries, Pati regency is one area in Central Java province that became the backbone of marine fish production in Central Java. In the Year 2013, Pati regency was ranked third with contribution of 14.34%. The biggest contribution of marine fisheries contributed by Rembang regency at 28.45%, followed by Batang regency 14.59%. For the other areas that contribute to marine fisheries, among others Tegal city 10.00% and Pekalongan city 8.16% (Statistics of Central Java province, 2014). Aquaculture production itself can be affected by fishing gear. Pasaribu (2008) in his research stating that the fishing gear with proper operation is one of the factors that determine fisheries production. Fishing gear used in Pati regency consists of Purse Seine, Dogol/Krikit, squid nets, gill nets, Pejer nets, Trammelnet nets, trawl, Prawe Fishing rod and nets (Statistics of Pati Regency, 2014).

On 2015, Marine and Fisheries Ministry of Indonesia Republic issued Ministerial Regulation Number 2 of 2015 on the prohibition of the use of fishing gear trawl and Seine Nets in Regional Fisheries Management of Indonesia Republic. Based on the Ministerial Regulation, fishing gear such as dogol and trawl are prohibited to use, including in Pati Regency. Based on the interview result with Pati Regency fisherman figures, fishing gear other than trawl and dogol that have good prospects is squid net and Purse Seine. Based on marine and fisheries agency of Pati Regency, squid net fishing gear used engine boat of 10-30 GT, meanwhile Purse Seine fishing gear used engine boat above 30 GT. Operation of Purse Seine fishing gear, namely the trip/fishing area is outside the territorial waters of Pati regency because the boat has a large engine. The boat siize of squid net and trawl relatively the same at between 10-30 GT so that squid net can be used as an alternative to replace trawl. The growth in squid net fishing gear, which reached 48.39% in 2013 shows that there is interest from fisherman to use squid net fishing gear. According Nelwan et al (2012), fishing activities are activities performed to obtain a number of catches in order to meet the demand by using various types of fishing gear. In practice, the operation is still optimal. Many fishing gear types used by fisherman creates competition between fishing gear types. Meanwhile Wardhani et al (2012) stated that the fishery business undertaken by entrepreneurs should generate sustainable profits. Ramadhan et al (2016) declare that the fishery business is an economic activity that is influenced by production factors. Meanwhile, to maintain the continuity of fishery business are required to maintain the productivity of the catch. Fishery business in Juwana Subdistrict Pati Regency, especially those using squid net fishing gear experienced growth when viewed from the amount of squid net ownership. In 2012 there's only 31 units of sqiud net fishing gear (Statistics of Pati Regency, 2013) used by fisherman in Juwana Subdistrict, then in 2013 the number of squid net fishing gear unit increased by 48.39% to 46 units (Statistics of Pati Regency, 2014). The enhancement of the number of squid net fishing gear unit showed the fisherman increased interest in Juwana Subdistrict to use squid net Pati Regency. Purpose of the research are (1) to analyze the factors that influence the squid net production in Juwana Subdistrict Pati

Regency. (2) To analyze the return to scale of squid net production in Juwana Subdistrict Pati Regency. (3) To analyze the R/C ratio of squid net fisheries business in Juwana Subdistrict Pati Regency.

Cobb-Douglas Production Function

The Cobb-Douglas production function was introduced by Charles W. Cobb and Paul H. Douglas. This production function created after conducting research on several industries in the world (Hossain *et al*, 2013). Felipe and Adams (2005) said that the estimation of Cobb-Douglas function is a way to conduct macroeconomic analysis and critical theoretical constructs such as potential output, technical changes or labor demand. By using the production function, we can see changes in supply with simultaneous observation of the development of labor quantity, capital and total factor productivity (Hajkova and Hurnik 2007). The Cobb Douglas function is a functional relationship between input and output (Ahmad and Khan, 2015). The production function analysis is the continuation of the regression analysis, that is the analysis describes causal relationships.

Weakness : Substitutional elasticity value (σ=1) and form the linear lines. Incorrect variable spesification causing the production elasticity is negative or the value is too large or small. It is also biased against management variables. Factors management is an important factor to increase production because it related directly with the dependent variable such as the management of the use of production factors which will drive the technical elasticity of the production function upward. Advantages : simple functional form, economical in the calculation of estimation parameters, and often produce tangible allegations according to statistical tests. Consistent with diminishing marginal product, easily obtainable alleged economies of scale, and contributing factors relative.

In the research of Mimit Primyastanto, Soemarno and Anthon Efani 2014 on Cobb-Douglass function studies to Payang fishing gear in Madura Strait with analysis of production factors, which the factors used are fisherman experience, number of trip, the amount of fuel and the length of payang pocket.

Result of the research showed that based on F test, it can be said that the cange in production or cathcing (Y) caused by production factors that are fisherman experience (X1), number of trip (X2), amount of fuel (X3) and length of payang pocket (X4). The entire technical production factors simultaneously influence the production of 91.6% at 95% confidence level. This value indicates that the factors that influence the production more than catch production 91.6% while the remaining is influenced by other factors. Each regression coefficient of variable of production factor showed that fisherman experience (X1), number of trip (X2) and lenght of payang pocket (X4) give the positive correlation to the production (Y). It means that the addition of production factor will be increasing the production. The following may be explained on the assumption that the regression results : (1) any increase in the fisherman experience for 1 year will increasing the catch production 0.454 ton/year, with assumption the other factor is constant. This is possible because people with long experience can know the characteristics and signs of abundant fishery resources so able to catch more fish. (2) any increase in the number of trip by 1 trip will increasing the catch production 1.147 ton/year, with assumption the other factor is constant. Higher fishing intensity will increasing the amount obtained. (3) any increase in payang pocket by 1 meters, will

increasing cath production by 0.344 ton/year with assumption the other factor is constant. Larger Payang pocket will make the coverage area wider, it increases the chances to catch fish.

RESEARCH METHODS

The research location in Juwana Subdistrict that are Bakaran Kulon Village, Dukutalit Village, Bajomulyo Village and Bendar Village. This research was held for 9 month, from October 2015 to June 2016. The research population are fisherman who use squid net fishing gear. Total population of fisherman who use squid net fishing gear are 46 person (marine and fisheries agency of Pati regency, 2014), because the total population less than 100 so all of the population used as research sample. Based on the results of current field research when the data have been collected, the population of fishermen using squid net fishing gear Juwana Subdistrict amounted to 41 person. Information obtained that 1 squid net boat were not operating due to the boat owner dies, 2 squid net boat is not operated, 1 squid net boat is the same boat but changed on the number of fishery business license and 1 squid net boat not using squid net fishing gear but using purse seine fishing gear. After calculation of GT boat showed that range of data is 18-40 GT. To minimize the occurrence of heteroskedatisity, the data used will be limited to 20-40 GT. Consideration taken when determining the limits GT boat is meeting the needs of the data for further data processing.

To estimate the future production, there is need to be know the behavior of production factors affecting production change, so with the known of this behavior are furthermore identified the variables that influence the behavior significantly (Suharso et al, 2006). The model used in the research to describe the relationship between inputs and outputs in production process is the Cobb-Douglas function. To estimate the factors that influence the output, Cobb-Douglas model of appropriate use, because this model is a model that is most relevant (Nugroho, 2015). The Cobb-Douglas production function selected as the relationship between the catch value with the independent variable. Production of sqiud net catch in Juwana Subdistrict Pati Regency is a function of : GT boat, lenght of trip, diesel fuel, wide of net, the engine capacity, consumption, number of crew and lights. Production input for GT boat in the form of an index. This is done with consideration to minimize the occurrence of multicollinearity.

Table 1. Dependent and Independent Variable of Squid Net Fisheries Business

Number	Variable Name	Production Input	Measurement Scale
1	Squid net production	Ln Y	kg
2	GT boat	IGT_boat	index
3	Lenght of trip	LnLenght_of_Trip	day
4	Diesel Fuel	LnDiesel_fuel	liters
5	Wide of Net	LnWide_of_net	meters
6	Engine Capacity	LnEngine_capacity	Pk
7	Consumption	LnConsumption	IDR
8	Light	LnLight	piece
9	Number of Crew	Lnnumber_of_crew	person

Source : Purnomo (2012), Putra (2013), with modification

The mathematical equation can be

Y = f(IGT_boat, Lenght_of_Trip, Diesel_fuel, Wide_of_net, mechine_capacity, Consumption, Light, number_of_crew) ..... (1)

The estimation form of Cobb_douglas production function:

Ln Y = Ln b + b_1 IGT_boat + b_2 LnLenght_of_Trip + b_3 LnDiesel_fuel + b_4 LnWide_of_net + b_5 LnEngine_capacity + b_6 LnConsumption + b_7 LnLight + b_8 Lnnumber_of_crew ..... (2)

GT boat variable is the index result againt the GT boat with the geometric formula index (Susilowati, 1998):

$IGTboat = P^{\%P}.L^{\%L}.D^{\%D}$ ..... (3)

Dimana :

P :Lenght of squid net boat (meters)
%P :The percentage share of the length of squid net boat
L :Wide of squid net boat (meters)
%L :The percentage share of the wide of squid net boat
D :depht of squid net boat (meters)
%D :The percentage share of the depht of squid net boat

Return to scale of squid net fisheries business calculated from the sum of elasticity coefficient of the physical input that is IGT boat, Lnlenght of trip, Lndiesel fuel, Lnwide of net, Ln engine capacity, Lnnumber of crew and Lnlight.

usaha perikanan jaring cumi dihitung dari penjumlahan koefisien elastisitas input fisik yaitu IGT kapal, Lnlama trip, LnBBM Solar, LnLuas.Jr, LnPK mesin, LnJml ABK dan LnLampu. Sistematically formulated :

Scenario I

$\sum b_i$ physical = $b_1 + b_2 + b_3 + b_4 + b_5 + b_6 + b_7$ ..... (4)

Explanation :

written as follows :

b_1 = Elasticity coefficient of IGT boat
b_2 = Elasticity coefficient of Lnlenght of trip
b_3 = Elasticity coefficient of Lndiesel fuel
b_4 = Elasticity coefficient of Lnwide of net
b_5 = Elasticity coefficient of Lnengine capacity
b_6 = Elasticity coefficient of LnLight
b_7 = Elasticity coefficient of Lnnumber of crew

Cost and Return feasibility analysis of squid net fishery conducted by *Revenue-Cost* (R/C ratio) analysis. *Revenue-Cost* (R/C ratio) analysis is the comparation between total revenue and total cost from a business. This analysis was conducted to analyze the business performance assessed through their business income. The calculation result of R/C ratio will be known the probability advantages/disadvantages and feasibility of fishery business run. Sistematically :

Profit (π) = TR – TC ..... (5)
= (p.C) – (FC + VC) ..... (6)
R/C Ratio = TR/TC..... (7)

Explanation:

π = Profit (IDR)
TR = total revenue (IDR)
TC = total cost (IDR)
FC = fixed cost (IDR)
VC = variable cost total (IDR)
p = The fish price (IDR/Kg)
C = total cathment (Kg)

The criteria for the calculation results of R/ Cratio is :

- if R/C ratio > 1, the business experiencing profit or feasible to develop.
- if R/C ratio < 1, the business experiencing loss or not feasible to develop..
- if R/C ratio = 1, the business on Break Event Point condition.

Fixed cost consists of investment costs and administrative costs. While that includes variable costs is operating costs.

Revenue-Cost analysis (R/C ratio) conducted for each trip and made in two scenarios :

Scenario I : ideal scenario, where the entire cost of equipment depreciation is included as fix cost. In other words, the boat crews take responsibility to the entire depreciation cost.

Scenario II : scenario negotiation, where there are negotiations between the owner with of the boat crews to bear the depreciation cost of equipment. Based on the interview with the owner, the depreciation cost of equipment that become the boat crew responsibility is 16% from evenue after deducting operating expenses.

Table 2. Fixed and Variable Cost Component of Squid Net Fisheries Business

Fixed Cost			**Variabel Cost**
Investment Cost	Maintenance Cost	Administration Cost	Operational Cost
-Boat	-Engine Maintenance	-fishery business license	-diesel fuel
-Engine	-Boat Maintenance	-change of health book	-Oil
-Fishing gear	-Fishing gear Meintenance	-Fishing lisence	-Supplies (clean water, consumption)
-Light		-Warrant of operation	-Book of the crew list
-Freezer		-Nationality sertificate of Indonesian Boat	- Radio permit
			-Sailing permit
			-Fuel refill permit
			-Fish Auction Retribution

Source : Putra (2013) with modification

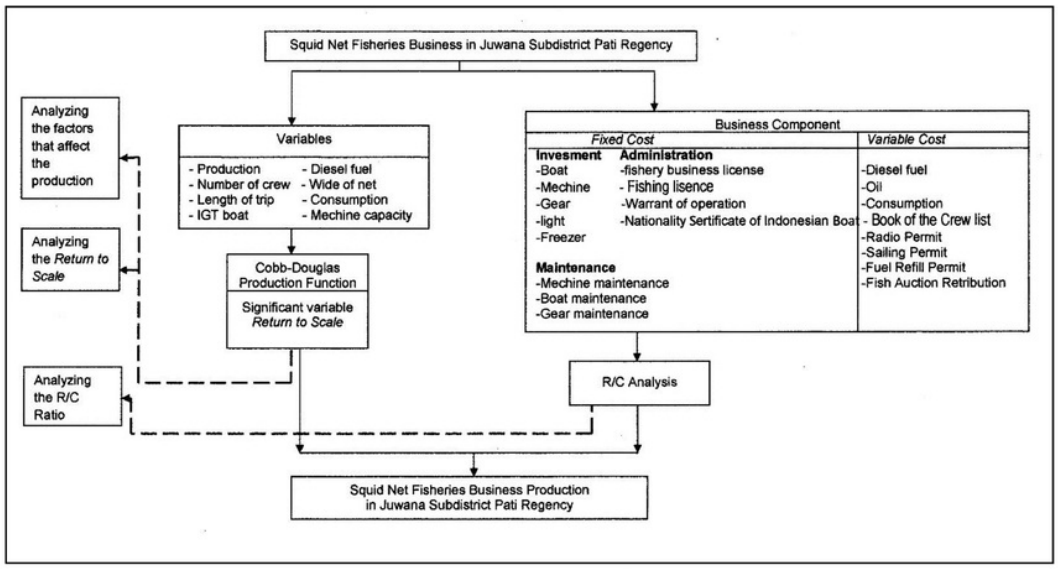

Figure 1. Framework

RESULTS AND DISCUSSION

There are 4 village as domicile of squid net fisherman in Juwana Subdistrict Pati Regency that are Bakaran Kulon Village with total respondent 3 (N=3), Dukutalit Village N=5, Bajomulyo Village N=23 and Bendar Village N=5. As details, the respondent profil of squid net fisherman presented by Table 3.

The respondents age of squid net fisherman majority on the age of 51-60 years. Respondent with the age 30-40 years n=3, age 41-50 years n=9, age 51-60 years n=24 and none respondent on the age .60. The minimum age of respondent is 35 years, the maximum age of respondent is 57 years, the average age of respondent is 51.54 years with standard deviation 6.313 years.

The respondent education majority of squid net fisherman is primary school. Responden with primary education n=3, junior high school n=8, senior high school n=5 and none respondent with bachelor education.

For fisherman experience on the range 0-10 years n=3, on the range 11-20 years n=17, on the range 21-30 years n=4, on the range 31-40 years n=10 and on the range . 40 years n=2. The minimum fisherman experience is 10 years, the maximum fisherman experience 45 years, the average fisherman experience is 22.29 years with standard deviation 10.916 years.

Production Function Analysis

The estimation result of Coob-Douglas production function of squid net fisheries business in Juwana Subdistrict Pati Regency there are significant input (sig. < 0.05) that are Lnlength of trip (Sig. 0.000), Lndiesel Fuel (Sig. 0.000), Lnnumber of crew (Sig. 0.000) and Lnlight (0.017). For unsignificant variable are IGT of boat variabel (Sig. 0.329), Lnwide of net (Sig. 0.791), Lnengine capacity (Sig. 0.782) dan Lnconsumption (Sig. 0.091). The estimation result presented by Table 4.

Table 3. Respondent Profil of Squid Net Fisherman in Juwana Subdistrict Pati Regency

Number	Explanation	Bakaran Kulon Village	Dukutalit Village	Bajomulyo Village	Bendar Village
1	Total	3	5	23	5
2	Age				
		Minimum	Maximum	Mean	Std. Deviation
		35	57	51,54	6,313
	Details				
	30-40 years	0	1	1	1
	41-50 years	0	2	4	3
	51-60 years	3	3	2	16
	> 60 years	0	0	0	0
3	Education				
	Primary School	0	2	18	3
	Junior High School	3	1	3	1
	Senior High School	0	2	1	2
	Bachelor				
4	Fisherman Experience				
		Minimum	Maximum	Mean	Std. Deviation
		10	45	22,29	10,916
	Details				
	0-10 years	0	2	1	0
	11-20 years	0	1	14	2
	21-30 years	0	0	3	1
	31-40 years	3	4	2	1
	> 40 years	0	0	1	1

Sumber : Data Processing (2016), Mulyono *et al* (2012) with modification.

Table 4. Estimation of Cobb-Douglas Function of Sqiud Net Fisheries Business in Juwana Subdistrict Pati Regency

Variable	**Coefficient**	**t-count**	**Sig.**
(Constant)	7.842	3.448	0.002
IGT_Boat	1.548	0.994	0.329
Lnlength_of_Trip	-0.725	-6.521	0.000
Lndiesel_Fuel	0.446	4.707	0.000
Lnwide_of_Net	0.035	0.267	0.791
Lnengine_Capacity	-0.018	-0.279	0.782
Lnconsumption	0.165	1.752	0.091
Lnnumber_of_Crew	-1.987	-4.348	0.000
Lnlight	0.470	2.541	0.017
R-square			0.819
F count			15.242

Sig. F count		0.000
Return to scale		-0.231
N		36
Multikolinearity Detections		
- *Tolerance*		> 0.10
- *VIF*	< 10	
- *Zero-order, partial, part*	< 0.8	
- Matrix of Correlation Coefficient	< 0.8	
Conclution		none
Heteroskedastisity Detection		*cross-section data*
Conclution		accepted
Autocorelation Detection		
- Durbin-Watson		inconclusive
-*Run-test*		sig > 0.05
Conclution		Random (autocorelation free)

Estimation of Cobb-Douglas Function of Sqiud Net Fisheries Business in Juwana Subdistrict Pati Rgency is :

$$LnProduction = Ln\,7.842 + 1.548\,IGTof\ boat - 0.725\,Lnlenght\ of\ trip + 0.446\,Lndiesel\ fuel + 0.035\,Lnwide\ of\ net - 0.018\,Lnengine\ capacity + 0.165\,Lnconsumption - 1.987\,Lnnumber\ of\ crew + 0.470\,Lnlight$$

Cofficient of input variable for Cobb-Douglas production function have positive and negative value indicates that the model is not in a normal condition that is a trend towards the production function is already saturated.

The reliability test of the model or the feasibility test of the model or more popularly known as the F test (some call a simultaneous test model) is an initial stage identifies the estimated regression model is feasible or not. Feasible on question is the estimated feasible model used to explain the influence of independent variables on the dependent variable (Iqbal, 2015). The calculations show that the value of F calculated probability is 0.000 (see Table 14) so that it can be said that the regression model estimated worth it because the probability value <0.05.

The determination coefficient explaining the variation of independent variables influence to dependent variable or can be said as whole proportion of the influence of independent variables on the dependent variable. The determination coefficient can be measured by the value of R-Square (Iqbal, 2015). In the calculation, the value of R-Square (total of the independent variable is 8) is 0.819 (see Table 14). This shows that the proportion between the influence of the independent variables of 81.9%. Thus, 18.1% of squid net fisheries business in Juwana Subdistrict Pati regency is influenced by other factors outside the IGT boat, length of trip, Diesel Fuel, wide of net, machine capacity, consumption, number of crew and lights. Other factors that may be influential factor is the season.

Fishery Production Function

Anderson (1986) stated that the short-term fishery production function is the

relationship between the catch and effort, whereas in the long term is a connection between catching and the average of catching that can be obtained at any particular time without affecting fish stocks.

Based on production teory, there are 4 stages of natural resources production seen from the number of input use. Stage I, production to achieve maximum economic profits (*Maximum Economic Yield*/MEY). Stage II, production to achieve maximum physical production (*Maximum Sustainable Yield*/MSY). Stage III, production that does not earn a profit or loss (*break even point* or *open acsess*). Stage IV, loss production (Susilowati, 2006).

Based on Susilowati (2006), if the production of a resource is located at the first stage it can be said that the resource is still in the stage of the glory economically, because it can provide additional results that increasing with the increasing of production input. When production is in stage II, with more and more use of inputs this resource will provide diminishing returns. When production started to go in stage III and IV, would have law of diminishing return when added the production inputs, the production behavior occurs on all natural resources, including fisheries. The relationship between the Maximum Economic Yield (MEY), Maximum Sustainable Yield (MSY) and Open Access Equilibrium (OAE) is shown in Figure 2.

When the resources use overexploited, the level of production will be in the range of late stage II and stage III (mature production). In stage III, production is already experiencing saturated so the input addition will reduce the output (Susilowati, 2006). Squid net fisheries business in Juwana Subdistrict, the production levels are in the range of late stage II and stage III. It is characterized by the coefficient of production inputs that there are positive and negative. Some production input coefficients seen opposite each other, eg. lenght of trip input coefficient is negative, Diesel Fuel coefficient is positive and engine capacity coefficient is negative. If the condition is in stage I, the third productin input will be positive or proportional. It also happens to consumption coefficient and the number of crew coefficient. Thus, it can be said that the status of squid net fisheries business in Juwana Subdistrict Pati Regency is located at the transition of stage II to stage III or begin to decline in production.

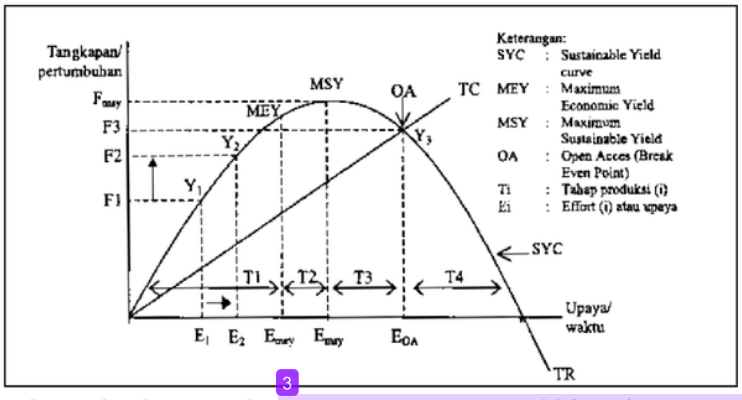

Figure 2. The relationship between the Maximum Economic Yield (MEY), Maximum Sustainable Yield (MSY) and Open Access Equilibrium (OAE)

Source :Susilowati (2006)

The model interpretation conducted after the classic assumption test and the feasibility of the model. It is because, First, the classic assumption test ensure that the minimum requirements of a linear regression model has been met so that will not cause an error in the fulfillment of assumptions. Second, the feasibility test ensure that a linear regression model estimated is worth explaining the influence of the independent variable on the dependent variable. Interpretation of squid net fisheries business model in Juwana Subdistrict Pati Regency are:

a). LnSquid net fisheries business production

The constant is 7.842, means if the value of the independent variable is assumed to be 0, then the value of squid net fisheries production amounted to 7.842 kg.

b). IGT Boat

The coefficient for index GT input is 1.548. This means that if the use of GT boat input increased 1% (ceteris paribus conditions) will result in an increase in production output of squid net fisheries business of 1.548%. The addition of the boat size (GT boat) will likely increase the number of production because the available of larger storage space. However, IGT boat input not significant (Sig. 0.329) against the squid net fisheries business production.

c). Lnlenght of trip

The coefficient for lenght of trip input is -0.725. This means that if the use of lenght of trip input increased 1% (ceteris paribus conditions) will result in an decrease in production output of squid net fisheries business of 0.725%. The addition of lenght of trip will likely decrease the number of production. This happens because the fishing area will be exploited even more so in the long run the amount of the stock will be reduced so that production will decline. These conditions indicate the squid net fisheries business in Juwana Subdistrict are in a transition of stage II to stage III. lenght of trip input is significant (Sig. 0,000) to the production of squid net fisheries business.

d). Lndiesel fuel

The coefficient for diesel fuel input is 0.446. This means that if the use of diesel fuel input increased 1% (ceteris paribus conditions) will result in an increase in production output of squid net fisheries business of 0.446%. The addition of diesel fuel will likely increase the number of production, however this applies to short-term, as they relate to the availability of fish stocks. These conditions indicate the squid net fisheries business in Juwana Subdistrict are in a transition of stage II to stage III. The diesel fuel input is significant (Sig. 0,000) to the production of squid net fisheries business.

e). Lnwide of net

The coefficient for wide of net input is 0.035. This means that if the use of wide of net input increased 1% (ceteris paribus conditions) will result in an increase in production output of squid net fisheries business of 0.035%. The addition of wide of net will likely increase the number of production, however this influenced by the availability of fish stocks. If there had been over-exploitation, the production will still fall despite to the wide of net addition. The wide of net input is not significant (Sig. 0,791) to the production of squid net fisheries business.

f). Lnengine capacity

The coefficient for engine capacity input is -0.018. This means that if the use of engine capacity input increased 1% (ceteris paribus conditions) will result in an decrease in production output of squid net fisheries business of 0.018%. The addition of engine capacity will likely increase the number of production. This because the engine's ability increase so that the process will work more efficiently and faster. However this conditions

relating to the availability of fish stocks, the squid net fisheries businesses in Juwana Subdistrict in production conditions that are in a transition stage II to stage III. The engine capacity input is not significant (Sig. 0,782) to the production of squid net fisheries business.

g). Lnconsumption

The coefficient for consumption input is 0.165. This means that if the use of consumption input increased 1% (ceteris paribus conditions) will result in an increase in production output of squid net fisheries business of 0.165%. The addition of consumption will likely increase the number of production because extend the lenght of trip. However, this conditions only happens in short-term because long of lenght of trip will decrease production. This conditions indicate the squid net fisheries businesses in Juwana Subdistrict in production conditions that are in a transition stage II to stage III. The consumption input is not significant (Sig. 0,091) to the production of squid net fisheries business.

h). Lnnumber of crew

The coefficient for number of crew input is -1.987. This means that if the use of number of crew input increased 1% (ceteris paribus conditions) will result in an decrease in production output of squid net fisheries business of 1.987%. Too many crew will make fishing activity becomes inefficient and can slow down the work process due to difficulties in coordination. In addition, the region has occurred overexploitation although the amount of crew have been added the production will continue to decline. This conditions indicate the squid net fisheries businesses in Juwana Subdistrict in production conditions that are in a transition stage II to stage III. The number of crew input is significant (Sig. 0,000) to the production of squid net fisheries business.

i). Lnlight

The coefficient for light input is 0.470. This means that if the use of light input increased 1% (ceteris paribus conditions) will result in an increase in production output of squid net fisheries business of 0,470%. Increasing the number of light will likely increase the number of production because squid net fishing gear rely on the lighting in the cathcing process. However, if the fishing area has occurred overexploitasi precisely the number of production will decrease. This conditions indicate the squid net fisheries businesses in Juwana Subdistrict in production conditions that are in a transition stage II to stage III. The light input is significant (Sig. 0,017) to the production of squid net fisheries business.

Return To Scale

The return to scale value of the squid net fisheries business in Juwana Subdistrict Pati Regency for Plan A :

$$\sum \text{bi physical} = 1.548 - 0.725 + 0.446 + 0.035 - 0.018 - 1.987 + 0.470$$
$$= -0.231$$

Result of addition is explained that the squid net fisheries business in condition of decreasing returns to scale, because the value of returns to scale less than 1. The condition of squid net fisheries business at the research time was at the term of decline in production, it is thought to be caused due to the over-exploitation of fish resources in the fishing area for squid net boat.

Cost and Return Feasibility Analysis

Finansial feasibility analysis with R/C ratio of squid net fisheries business in Juwana subdistrict Pati Regency calculated for each seasons that are peak season, regular season and bad season. At depreciation cost, calculation are

made in two scenarios : 1) Scenario I is ideal scenario, where the entire cost of equipment depreciation is included as fix cost. In other words, the boat crews take responsibility to the entire depreciation cost. 2) Scenario II is negotiation scenario, where there are negotiations between the owner with of the boat crews to bear the depreciation cost of equipment. Based on the interview with the owner, the depreciation cost of equipment that become the boat crew responsibility is 16% from evenue after deducting operating expenses.

a) Revenue-Cost Ratio Analysis (R/C Ratio) Peak Season

Finansial feasibility analysis of squid net fisheries business in Juwana subdistrict Pati Regency were calculated by Revenue-Cost Ratio (R/C ratio) calculation. The Revenue-Cost Ratio calculation of squid net fisheries business in Juwana Subdistrict with Scenario I and Scenario II presented by Table 5. Based on the calculation result on Table 5, shows that the squid net fisheries business on peak season from scenario I experience the profits or worthy to be developed with R/C ratio 1.499. This R/C ratio also show that every expences of IDR 1,000 will earn revenue IDR 1,499. R/C ratio > 1 also show that this business already efficient. For scenario II experience the profits or worthy to be developed with R/C ratio 2.248. This R/C ratio also show that every expences of IDR 1,000 will earn revenue IDR 2,248. R/C ratio > 1 also show that this business already efficient (Sari, 2011).

The business profit earned per trip for peak season based on scenario I is IDR 213,275,035 while the business profit earned per trip for peak season based on scenario II is 355,874,449. This profit, will be shared by the sharing system between the owner and the crew. It because the crew wage for squid net fisheries business in Juwana Subdistrict Pati regency performed by the sharing system. The sharing system details are 45% for the owner and 55% for the crew. The crew also has the details for nahkoda 2 portion from 55%, the mechanics 1.5 portion from 55% and the regular crew 1 portion from 55%.

The calculation result of the sharing system scenario I is the owner of squid net boat obtaining IDR 95,973,766 and the crew obtaining IDR 117,301,269. The crew portion then divided to each crew. If the average number of the squid net boat crew is 10 person with details 1 person is nahkoda, 2 peson are mechanics and 8 person are regular crew. The average length of trip is 3 month then earned wages per month for nahkoda IDR 6,516,737; wages per month for mechanics IDR 4,887,553; and wages per month for regular crew IDR 3,258,369. Scenario II, the calculation of sharing system is the owner obtaining IDR 160,143,502 and the crew obtaining IDR 195,730,947. After being calculated, it show that wages per month for nahkoda IDR 10,873,941; wages per month for mechanics IDR 8,155,456; and wages per month for regular crew IDR 10,873,941.

Based on the interview result, the average of the crew household expences is IDR 1,800,000. Therefore, for peak season scenario I and scenario II, the revenue which is obtained by the squid net boat crew has been able to meet the needs of the crew household expences. Beside that, if seen from Regional Minimum Wage of Pati Regency in 2015 that is IDR 1,176,000/month, then the revenue of the squid net boat crew for the peak season has exceeded the specified Regional Minimum Wage.

b) Analisis Revenue-Cost Ratio (Rasio R/C) Musim Biasa

The Revenue-Cost Ratio calculation for regular season of squid net fisheries business in Juwana Subdistrict with Scenario I and Scenario II presented by Table 6.

Table 5. R/C Ratio Calculation for Squid Net Fisheries Business at Peak Season

Description	Scenario I		Scenario II	
	IDR	**%**	**IDR**	**%**
Total Revenue	641,000,000		641,000,000	
Total Cost	427,724,965	100.00	285,125,551	100.00
Fix Cost	**220,700,899**	**51.60**	**78,101,485**	**27.39**
Depreciation Cost	121,955,936	55.26		88.88
• Boat	6,009,132	**207.024.067**		
• Engine	2,781,279	1.26		
• Fishing gear	2,494,292	1.13		
• Freezer	20,611,872	9.34		
• Light	90,059,361	40.81	361528	
Maintenance Cost	8,324,074	3.77	8,324,074	10.66
Administration Cost	361,528	0.16		0.46
Operational Cost	**207,024,067**	**48.40**		**72.61**
Diesel Fuel	106,747,222	24.96	106,747,222	37.44
Oil	2,213,889	0.52	2,213,889	0.78
Consumption	90,555,556	21.17	90,555,556	31.76
Book of the Crew list	50,000	0.01	50,000	0.02
Radio Permit	70,000	0.02	70,000	0.02
Sailing Permit	30,000	0.01	30,000	0.01
Fuel Refill Permit	50,000	0.01	50,000	0.02
Fish Auction Retribution	7,307,400	1.71	7,307,400	2.56
Profit	**213,275,035**		**355,874,449**	
R/C Ratio	**1.499**		**2.248**	

The calculation result on Table 6, shows that the squid net fisheries business on regular season from scenario I experience the profits or worthy to be developed with R/C ratio 1.058. This R/C ratio also show that every expences of IDR 1,000 will earn revenue IDR 1,058. R/C ratio > 1 also show that this business already efficient. For scenario II experience the profits or worthy to be developed with R/C ratio 1.779. This R/C ratio also show that every expences of IDR 1,000 will earn revenue IDR 1,779.

The business profit earned per trip for regular season based on scenario I is IDR 24,507,357. The calculation result of the sharing system scenario I is the owner of squid net boat obtaining IDR 11,028,311 and the crew obtaining

IDR 13,479,046. The wages per month for nahkoda IDR 748,836; wages per month for mechanics IDR 561,627; and wages per month for regular crew IDR 374,418. For scenario II, the business profit earned per trip IDR 197,023,333. The calculation of sharing system is the owner obtaining IDR 88,660,500 and the crew obtaining IDR 108,362,833. After being calculated, it show that wages per month for nahkoda IDR 6,020,157; wages per month for mechanics IDR 4,515,118; and wages per month for regular crew IDR 3,010,079.

Table 6. R/C Ratio Calculation for Squid Net Fisheries Business at Regular Season

Description	Scenario I		Scenario II	
	IDR	**%**	**IDR**	**%**
Total Revenue	450,055,556		450,055,556	
Total Cost	425,548,199	100.00	253,032,223	100.00
Fix Cost	**220,700,899**	**51.86**	**48,184,923**	**19.04**
Depreciation Cost	121,955,936	55.26	39,499,321	81.97
• Boat	6,009,132	2.72		
• Engine	2,781,279	1.26		
• Fishing gear	2,494,292	1.13		
• Freezer	20,611,872	9.34		
• Light	90,059,361	40.81		
Maintenance Cost	8,324,074	3.77	8,324,074	17.28
Administration Cost	361,528	0.16	361,528	0.75
Operational Cost	**204,847,300**	**48.14**	**204,847,300**	**80.96**
Diesel Fuel	106,747,222	25.08	106,747,222	42.19
Oil	2,213,889	0.52	2,213,889	0.87
Consumption	90,555,556	21.28	90,555,556	35.79
Book of the Crew list	50,000	0.01	50,000	0.02
Radio Permit	70,000	0.02	70,000	0.03
Sailing Permit	30,000	0.01	30,000	0.01
Fuel Refill Permit	50,000	0.01	50,000	0.02
Fish Auction Retribution	5,130,633	1.21	5,130,633	2.03
Profit	**24,507,357**		**197,023,333**	
R/C Ratio	**1.058**		**1.779**	

The average of the crew household expences is IDR 1,800,000. Therefore, for regular season scenario I the revenue that earned by the squid net crew can not meet the needs of household expences per month of each squid net crew. Beside that, if the Regional Minimum Wage of Pati Regency in 2015 is IDR 1,176,000/month, then the revenue of the squid net boat crew in regular season is under the Regional Minimum Wage standard so that the squid net boat crew welfare is low. It's different with scenario I, in scenario II regular season the squid net boat crew already meet the needs of the squid net boat crew household expences per month and has surpassed the Regional Minimum Wage of Pati regency.

C) Revenue-Cost Ratio (R/C Ratio) Analysis bad Season

The Revenue-Cost Ratio calculation for bad season of squid net fisheries business in Juwana Subdistrict with Scenario I and Scenario II presented by Table 7. Scenario I shows that the squid net fisheries business on bad season from scenario I experience the loss or not worthy to be developed with R/C ratio 0.860. This R/C ratio also show that every expences of IDR 1,000 will earn revenue IDR 860. For scenario II experience the profits or worthy to be developed with R/C ratio 1.618. This R/C ratio also show that every expences of IDR 1,000 will earn revenue IDR 1,618.

Table 7. R/C Ratio Calculation for Squid Net Fisheries Business at Bad Season

Description	Scenario I		Scenario II	
	IDR	**%**	**IDR**	**%**
Total Revenue	340,000,000		340,000,000	
Total Cost	395,201,899	100.00	210,071,370	100.00
Fix Cost	**220,700,899**	**55.85**	**35,570,370**	**16.93**
Depreciation Cost	121,955,936	55.26	26,884,768	75.58
• Boat	6,009,132	2.72		
• Engine	2,781,279	1.26		
• Fishing gear	2,494,292	1.13		
• Freezer	20,611,872	9.34		
• Light	90,059,361	40.81		
Maintenance Cost	8,324,074	3.77	8,324,074	23.40
Administration Cost	361,528	0.16	361,528	1.02
Operational Cost	**174,501,000**	**44.15**	**174,501,000**	**83.07**
Diesel Fuel	101,050,000	25.57	101,050,000	48.10
Oil	1,875,000	0.47	1,875,000	0.89
Consumption	67,500,000	17.08	67,500,000	32.13
Book of the Crew list	50,000	0.01	50,000	0.02
Radio Permit	70,000	0.02	70,000	0.03
Sailing Permit	30,000	0.01	30,000	0.01
Fuel Refill Permit	50,000	0.01	50,000	0.02
Fish Auction Retribution	3,876,000	0.98	3,876,000	1.85
Profit	**-55,201,899**		**129,928,630**	
R/C Ratio	**0.860**		**1.618**	

The business loss earned per trip for bad season based on scenario I is IDR 55,201,899. Therefore, for bad season the squid net crew will not generate revenue but suffered a loss because of the income from the catch are not able to cover the costs incurred, so scenario I can not be applied to the squid net fisheries business in a bad season because the business is run will suffer losses. Meanwhile for scenario II, the profit that obtained per trip for bad season is IDR 129,928,630. The calculation result of the sharing system are the owner obtaining IDR 58,467,884 and the crew obtaining IDR 71,460,747. After being calculated, it show that wages per month for nahkoda IDR 3,970,041; wages per month for mechanics IDR 2,977,531; and wages per month for regular crew IDR 1,985,021.

Based on the calculation of R/C ratio for scenario I and scenario II, it show that R/C ratio for scenario II better than scenario I. It show that the squid net fisheries business in Juwana Subdistrict more feasible to be developed with scenario II. When viewed from the business profits, scenario II better used to the squid net fisheries business in Juwana Subdistrict Pati Regency. At the peak season with scenario II revenue that being obtained better than scenario I, because the scenario II profit that being divided to the crew is better than scenario I (refer Table 5). The same conditions occurred

in the regular season where the scenario II revenue that the crew earned is greater than in the first scenario, because the profit of scenario II were divided for the crew better than the first scenario (refer Table 6).

In contrast to the first scenario that experience loss (Table 7), at scenario II bad season experience profit (Table 7). Therefore, the crew already meet the needs of household expences and already surpassed the Regional Minimum Wage of Pati regency.

CONCLUSIONS

From these results, there are several conclusions, among others ; there is influence between the production factors on squid net fisheries business in Juwana Subdistrict Pati regency. Some input that would significantly influence the fishing effort that are lenght of trip, diesel fuel, number of crew and lights.

The Return to scale value of squid net fisheries business is -0.231. This indicates that there is decreasing to scale condition. This means each additional of input causes reduced output.

The R/C ratio of squid net fisheries business in peak season scenario I is 1.499 and scenario II is 2.248. While in regular season scenario I is 1.058 and scenario II is 1.779. As for bad season, scenario I is 0.860 and scenario II is 1.618. The conclution is scenario II more profitable to the squid net crew than scenario I.

REFERENCES

Ahmad, A. and M. Khan. 2015. Estimating The Cobb-Douglas Production Function. *International Journal of Research in Business Studies and Management*, Vol 2 (5) : 32-33.

Anderson, L. G. 1986. *The Economic of Fisheries Management*. USA :The John Hopkins University.

Statistics Agency of Pati Regency. 2013. *Pati In Figures 2012*. Pati.

_____ . 2014. *Pati In Figures 2013*. Pati.

Statistics Agency of Central Java Province. 2014. *Central Java In Figures 2013*. Semarang.

Marine and Fisheries Agency of Pati Regency. 2014. *Fishing gears Data of Boats Machine 10-30 GT In Pati Regency*. Pati.

Felipe, J and F. G. Adams. 2005. A Theory of Production, The Estimation of The Cobb-Douglas Function : A Retrospective View. *Eastern Economic Journal*, Vol 31 (3) : 427-445.

Ghozali, I. 2006. *Multivariate Analysis Aplication with SPSS Program*. Agency Publisher of Diponegoro University, Semarang.

Gujarati, D. N. 2003. *Basic Econometrics*. New York : McGraw-Hill.

Gujarati, D. N. and D. C. Porter. 2010. *Based of Econometrics. Book I. Edition 5*. Jakarta : Salemba Empat Agency Publisher.

Hajkova, D. and J. Hurnik. 2007. Cobb-Douglas Production Function : The case of a Converging Economy. *Czech Journal of economics and Finance*, Vol 57 (9-10) : 465-476.

Hossain, Md. M., T. Basak and A. K. Majumder. 2013. Application of Non-Linear Cobb-Douglas Production Function With Autocorrelation Problem to Selected Manufacturing Industries in Bangladesh. *Open Journal of Statistics*, Vol 3 : 173-178.

Iqbal, M. 2015. *Data Processing with Multiple Linear Regression (with SPSS)*. Jakarta : Perbanas Institute Jakarta.

Marine and Fisheries Ministry of Indonesia Republic. 2015. *Marine and Fisheries In Figures 2014*. Jakarta.

Mulyono, S. E., W. Waridin and I. Susilowati. 2012. Poverty Alleviation In Municipality Of Semarang, Central Java-Indonesia : With Special Reference To Young Unemployed People Target. *WEI International Academic Conference Proceedings*. Zagreb, Croatia.

Nelwan A. F. P., Susaniati W and Kurnia M. 2012. Produktivity of Step on Boat Regional Fishing with different Distances From the Beach In Jeneponto Regency Waters. *Jurnal Akuatika*, Vol 4 (1) : 68-79.

Nugroho, B. A., 2015. Production Function Analysis Fungsi and Corn Efficiency In Patean Subdistrict Kendal Regency.*Jurnal JEJAK*, Vol 8 (2) : 163-177.

Pasaribu, L. 2008. *The Impact of Fuel (Diesel Fuel) Increases to The Fish Cathcing Business with Trawl (Case Study : Bagan Deli Village Medan Belawan Subdistrict Medan District)*. Unpublished. Agribusiness Study Program Social Economic

Agriculture Department Agriculture Faculty. Medan : North Sumatera University.

Marine and Fisheries Ministry of Indonesia Republic Regulation Number 2 of 2015 About Prohibition of the use of Trawls and Seine Nets Fishing Fishing gears *In Regional Fisheries Management of Indonesia Republic*. 2015 multiplied by Indonesia Republic.

Primyastanto, M., Soemarno and A. Efani. 2014. *Study of Cobb-Douglas Function on Payang Catch Tools at Madura Strait. Australian Journal of Basic and Applied Sciences,* Vol 8 (10) : 421-426.

Purnomo, A. 2012. Efficiency Analysis and Purse Seine Boat Productivity In sibolga. *Unpublished Thesis*. Postgraduated Program. Semarang : Diponegoro University.

Putra, S. E. 2013. Sustainable Fish Cathcing Business Analysis on Climate Change Conditions. Unpublished Thesis. Master of Economics and Development Study. Semarang : Diponegoro University.

Ramadhan, H., D. Wijayanto and Pramonowibowo. 2016. Technical Analysis and Fisheries Economical of *Boat Lift Net* In Coastal Fishing Port of Morodemak, Demak Regency. *Journal of Fisheries Resources Management and Technology*, Vol 5 (1) : 170-177.

Sari, K. M. 2011. Salted Fish Business Analysis In Cilacap Regency. *Unpublished*. Social Economic Agriculture Majoring Agribusiness Agriculture Study Program Agriculture Faculty. Surakarta : Sebelas Maret University.

Suharso, A. N. Bambang and Asriyanto. 2006. Elasticity of Fish Cathcing Production In Tegal District. *Jurnal Pasir Laut*, Vol 2 (1) : 26-36.

Susilowati, I. 1998. *Economics of Regulatory Compliance In The Fisheries Of Indonesia, Malaysia And The Philippines. Unpublished Dissertation*. Doctor Of Philosophy. Kuala Lumpur : Universitas Putra Malaysia.

———————.–2006. *Alignment In the Utilization and Management of Fisheries Resources For People and the Environment*. Speech Inauguration of Economics Faculty. Semarang : Diponegoro University.

Wardhani, R. K., Ismail and A. Rosyid. 2012. Boat Seine Fishing Gear Business Analysis In Coastal Fishing Port of Tawang Kendal Regency. *Journal of Fisheries Resources Utilization Management and Technology*, Vol 1 (1) : 67-76.

Analysis of Squid Net Fisheries Business Production

ORIGINALITY REPORT

6%	4%	4%	%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	digilib.unimed.ac.id Internet Source	2%
2	aip.scitation.org Internet Source	1%
3	Alistair McIlgorm. "Economic impacts of climate change on sustainable tuna and billfish management: Insights from the Western Pacific", Progress in Oceanography, 2010 Publication	<1%
4	Elsa Susanti, Hartono. "Mathematical Critical Thinking and Creative Thinking Skills", Proceedings of the 2019 International Conference on Mathematics, Science and Technology Teaching and Learning - ICMSTTL 2019, 2019 Publication	<1%
5	eprints.nottingham.ac.uk Internet Source	<1%
6	Trisnani Dwi Hapsari, Aristi Dian Purnama Fitri. "Technical and Economic Analysis of Modified	<1%

Payang Fishing Gear in the Fishing Port of Tawang Beach in Kendal District, Indonesia", Aquatic Procedia, 2016
Publication

---

7 Alexander Phuk Tjilen, Samel W. Ririhena, Nur jalal, Leo Antonio, Yohanis E. Teturan, Welhelmina Jeujanan. "The Coastal Community Development Project (CCDP) Environmentally Sustainable Empowerment Model in District Merauke", E3S Web of Conferences, 2018 <1%
Publication

---

8 Som Sekhar Bhattacharyya. "Comparative Cross Cultural Study of Indian Managers' Perspectives On Doing International Business in Bedouin And Guanxi Culture", International Journal of Asian Business and Information Management, 2019 <1%
Publication

---

9 Sajriawati, A Amir, S Elviana, A R Kadir. " Financial analysis of coral trout grouper ( ) in Gusung Island, Selayar archipelago regency ", IOP Conference Series: Earth and Environmental Science, 2019 <1%
Publication

---

10 Trisnani D Hapsari, Bogi B Jayanto, Aristi D P Fitri, I Triarso. "Business Profile of Boat Lift Net and Stationary Lift Net Fishing Gear in <1%

Morodemak Waters Central Java", IOP Conference Series: Earth and Environmental Science, 2018
Publication

11	Management Research News, Volume 29, Issue 7 (2006-09-19) Publication	<1%
12	Bo Lu, Jian-ya Chen, Hong-yan Cui, Tao Huang, Yun-jie Liu. "A virtual network mapping algorithm based on integer programming", Journal of Zhejiang University SCIENCE C, 2013 Publication	<1%
13	M. Manonmani. "Measuring Contributions of Labor, Capital and Technology in Indian Manufacturing Sector - A Cobb Douglas Production Function Approach", Review of Professional Management- A Journal of New Delhi Institute of Management, 2013 Publication	<1%
14	www.naruto-u.ac.jp Internet Source	<1%
15	www.iises.net Internet Source	<1%
16	www.harloffcapital.com Internet Source	<1%

17	www.scribd.com Internet Source	<1%
18	I Samidjan, D Rachmawati. " Polyculture Engineering technology of red tilapia ( ) and white shrimp ( ) based for protease enzyme ", IOP Conference Series: Earth and Environmental Science, 2018 Publication	<1%
19	Syamsul Hadi, M. Iwan Wahyudi, M. Hazmi, Henik Prayuginingsih. "Assessment of value added and development opportunity of agroindustry activity based on marine resources in Sub District of Panarukan, District of Situbondo", E3S Web of Conferences, 2018 Publication	<1%
20	www.engineeringletters.com Internet Source	<1%
21	farmville.fandom.com Internet Source	<1%
22	www.sciencepub.net Internet Source	<1%
23	file.scirp.org Internet Source	<1%
24	ARIF ARIF. "PENGARUH PROBLEM BASED LEARNING (PBL) TERHADAP MOTIVASI DAN	<1%

HASIL BELAJAR IPS SISWA KELAS VIII SMP NEGERI 13 MATARAM", Historis | FKIP UMMat, 2018
Publication

25 S A A Taridala, W G Abdullah, M A Tuwo, A Bafadal, I Fausayana, I Salam, S Wahyuni, Suaib. "Exploration of the potential of upland rice agribusiness development in South Konawe District, Southeast Sulawesi", IOP Conference Series: Earth and Environmental Science, 2019 <1%
Publication

Exclude quotes	On	Exclude matches	Off
Exclude bibliography	On		