

The Analysis of East Side Poverty Coastal Fishermen in ACEH

Nurlina¹

¹ Lecturers of Economics Faculty, Universitas Samudera

Ramli², Murni Daulay², Rujiman²

²Lecturers of Economics and Business Faculty, Universitas Sumatera Utara

DOI Link: <http://dx.doi.org/10.6007/IJARBSS/v6-i1/1977>

Published Date: 06 January 2016

Abstract

The purpose of this study is to explain the various factors that determine the presence of fish production, income, consumption and poverty in the East coastal areas of Aceh. The samples of this study were 385 respondents as primary research data by interviewing the people. Sampling technique is done by purposive. Data were analyzed by using multiple linear regression and statistical magnitude measurement method Ordinary Last Square (OLS). The results showed the first structure equation, simultaneously age, experience, education, technology, working capital and working hours significantly influence fish production. In the second structure equation, in partial, age, education, working capital and working hours are not significant positive effect on production of fish and experience a significant positive effect on fisheries production. In partial technology and working hours is not significantly impact on fish production. In the third structural equation, simultaneously age, experience, education, working capital, access to institutional and infrastructure effects on family income significantly. Partial variable, experience, working capital and institutional access is a significant positive effect on family income. Partially between age and level of infrastructure that is not significant positive effect on family income. Partially education no significant negative effect on family income. In another hand, Age, education, number of dependents, income affect on family consumption simultaneously. Partially family income and number of dependents is a significant positive effect on family consumption. Partially age no significant negative impact on family consumption. Partially education level was not significant positive effect on the level of family consumption. In the fourth structure of the equation, simultaneously variables of education, access to institutions, infrastructure, number of dependents and the fish production significantly influence the reduction of poverty. Partially education and significant has negative effect on poverty reduction. Partially institutional access has a significant negative effect on poverty. In partial infrastructure significantly affect the number of dependents reduce poverty.

Keywords: Fish Production, Family Income, Consumption Family, Poverty.

1. Introduction

1.1. Background

Basically Development carried out aimed at improving the livelihoods and standards of living. The main goal of economic development in addition to the high growth is to eliminate or reduce the level of poverty, reduce inequality of income and employment (Todaro 2014 and Smith, 2006).

Economic growth was offset by income distribution will consistently encourage poverty reduction in the long term and will create a sustainable increase in prosperity. United Nations (UN) considers that poverty as one manifestation of a low standard of living in developing countries is a major challenge for development efforts.

Coastal areas is an integral part of a State the poverty coastal area is also a state of poverty, poverty coast as well as one of the causes of urbanization is not desirable in a process of development, with the urbanization of the occurrence of regional disparity. Based on the above, the poor coastal communities must be taken seriously and continuously to improve people's welfare. Coastal economy contributes substantially to the national economy.

Aceh province is part of the Republic of Indonesia which is surrounded by the sea with a population of 5,015,234 inhabitants and extensive area 57 956 square kilo meters and consists of 23 districts / cities, 17 districts / municipalities in the coastal areas plus 6 new districts. The marine area is 395 370 square kilometers with 119 islands and 1,660 kilometers long coastline. (BPS: 2014).

Poverty is a problem of development in various fields marked limitation gain freedom and live up to the level of life expectancy, the inability to get an education, access to clean water, toilet facilities, and adequate health and deficiencies in meeting the basic needs of food and clothing.

Economic development is intended to strengthen the structure of the economy by putting the industrial sector as a driving force that is supported by agriculture and mining activities are efficient and effective service activities. Improving the welfare of the population can be done by giving greater attention on disadvantaged population groups, particularly the poor. Poverty alleviation directed at meeting the people's basic rights that include, among other yang decent work, legal protection, the necessities of life (food, clothing, and shelter), education, and health gradually with emphasis on the principle of equality and non-discrimination.

The eastern part consists of 3 (three) districts which located: East Aceh, Langsa and Aceh Tamiang, experiencing the same problem as districts / cities in Indonesia, where the area is pockets of poverty requires a different technique to decide its links.

The state of poverty in coastal Aceh fishermen eastern part of the research needs in production aspects of income, consumption and poverty in containers under the title "The analysis of East Coast Poverty Fishermen In Aceh."

1.2. Formulation of the problem

Based on the description of the background can be formulated problems in research (research quation) as follows:

1. Are simultaneously and partially age, experience, education, technology, working capital and working hours affect the production of fish in the coastal village of the eastern part of Aceh.

2. Are simultaneously and partially age, experience, education, working capital, access to institutional and infrastructure affects the income level of families in the coastal village of the eastern part of Aceh.
3. Are simultaneously and partially age, education, family income and number of family influence on the consumption of families in the coastal village of the eastern part of Aceh.
4. Are simultaneously and partially variable level of education, access to institutions, infrastructure, number of dependents and fish production effect on the level of poverty in the coastal village of the eastern part of Aceh.

2. Literature Review

2.1. Coastal Communities and Poverty

Coastal communities are a commodity who lives in coastal areas and life in general dependent on fisheries.

The characteristics of the reflected community or coastal communities in Indonesia are (Chozin at al, 2010):

1. The coastal communities are communities that depend on the nature of the sea. The Dependence of coastal communities are affected on the marine nature in the form of physical or emotional in accordance with the natural conditions.
2. The coastal communities highly dependent on cheap energy resources and to be able to dig conventional natural wealth of the sea is a place of living necessities of life.
3. The coastal communities highly dependent on the cash capital to be able to meet the needs of everyday life, especially for capital and consumer service activities.
4. The coastal communities highly dependent on other parties, either individually or in groups within a network system, good fishing, and the fish auction services to the owners of capital.
5. The coastal communities urgently need empowerment programs that can remove snares coastal communities of life that is very sharp and uncompromising.

The causes of poverty can be divided into four schools, namely: (Maipita, 2013).

1. Individual explanation, this school argues that poverty tends to be caused by the characteristics of the poor themselves. Characteristics referred to as lazy and less serious in all respects, including in the work.
2. Familia explanation, this school argues that poverty is caused by hereditary factors. Parent education level low has brought him into poverty. As a result, he was also unable to provide proper education to their children, so their children also falls on poverty.
3. Subcultural explanation, according to this school of thought that poverty can be caused by culture, habits, customs or due to environmental characteristics. For example, the habit of working are women, a habit that is reluctant to work hard and accept what is, the belief that serve the king or respectable, though not paid or otherwise resulting to poverty.

2.2. Development Indicators

For this approach to market forces is the key to solve the problem of poverty. The modernization theory that emphasize economic growth and production of the basic theories of this paradigm. One indicator is the national income (GNP), which since the 1950s began to be used as an indicator of development.

Independence and freedom will be achieved if everyone has or is able to reach the sources for his potential, such as education, good health and enough income.

2.3. Circle of Poverty

Nurkse argues about the circle of the poverty trap is not only due to the lack of development in the past but also presents obstacles to development in the future. In connection with this case Nurkse say "A country is poor because it is poor" (a country so poor because he is a poor country). (Sukirno, 2010).

Maipita (2013) poverty trap is a mechanism that makes the poor even poorer. Over time, this mechanism will be stronger and harder for the poor to get out of condition when the chain is not broken.

According to Ramli (2013) dimensions of poverty can be caused by three categories: first, poverty caused dimensions of knowledge. The effect of these dimensions starting from the low income to the limited access to information pertaining to business activities. Access this information will lead to mastery of the knowledge and skills that are low for trying. Knowledge and skills are low causing low productivity and low productivity causes poverty.

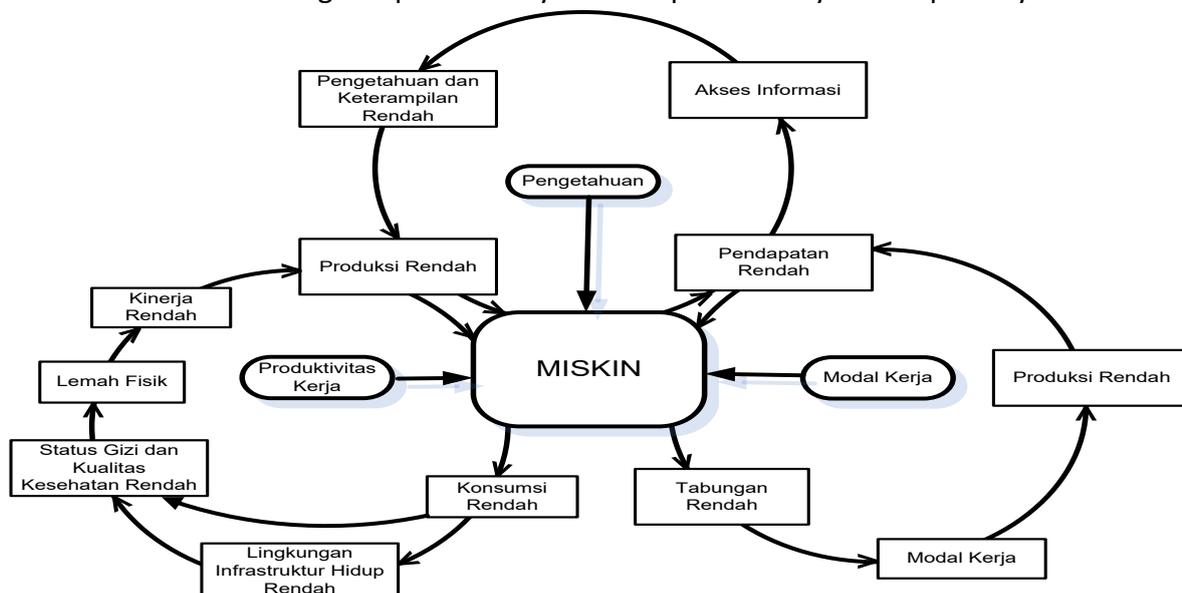


Figure 2.4. The series of Knowledge Exchange Working Capital Productivity Against Poverty. Source: Ramli (2013)

2.4. Economic Development

According to Todaro (2006) concept or goal that is born in the process of development such as economic equality and social development, poverty eradication, education for all communities, improvement of living standard, modernisasi institutional, coaching, self-reliance efforts, economic participation and others are an important aspect for coastal economic development.

According to Jhingan M.L. (2010). The factors that determine economic growth consists of 1) Economic factors consist of natural resources, capital allocation, organizational, technological advances and 5 division of labor and production scale. 2) Non-economic factors consist of social capital, human, political and administrative. Actions of local governments play an important role in stimulating or encourage the economics of the coastal areas.

Basically economic development as the basis of a process that causes the per capita income of a resident of a society increases and the increase in per capita income is a reflection of the onset of improvement in the economic welfare of society (Amalia, L: 2007).

2.5. Fisherman

In the Fisheries Act No. 45 of 2009 the results of the revision of Law No. 31 of 2004 defines the:

1. Fishermen are people whose livelihood is fishing.
2. The small fisherman is a person whose livelihood is fishing to make ends meet day-to-day use most large fishing boats with five (5) gross tons.
3. Farmers fish for livelihoods are people who do aquaculture
4. Empowering Small fish resources are those whose livelihood aquaculture to meet the everyday life needs.

Fishermen are a group of people who's live on the sea, either by arrest or cultivation. They generally live off the coast, a residential neighborhood close to the location of activities (Mulyadi, 2005).

2.6. Factors Affecting Income Fisherman

Fishermen's welfare is highly dependent on income, and the income of fishermen affected by several factors, according Sujarno (2008) there are a number of factors that influence the rate of increasing the income of fishermen, namely:

1. Technology
2. Age
3. Working Capital
4. Education
5. Experience
6. Equipment
7. Members of the organization or member
8. Season
9. Infrastructure
10. The number of family members

3. Conceptual Framework And Hypotheses

3.1. Conceptual framework

Production characteristics of poor fishing coastal areas are largely determined by the variables: age, experience, education, technology, working capital, and working hours. The level of family income of fishermen is a function of age, experience, education, technology, working capital, institutional and infrastructure access. The level of income received by the poorest fishers will be allocated to the various needs of fishermen were highly variable from variables of age and education the number of dependents.

Fishermen poverty structure may be determined in various dominant factors, among others: education, infrastructure, institutional access, number of dependents and the level of production. The description above more clearly can be seen in the following flowchart conceptual framework:

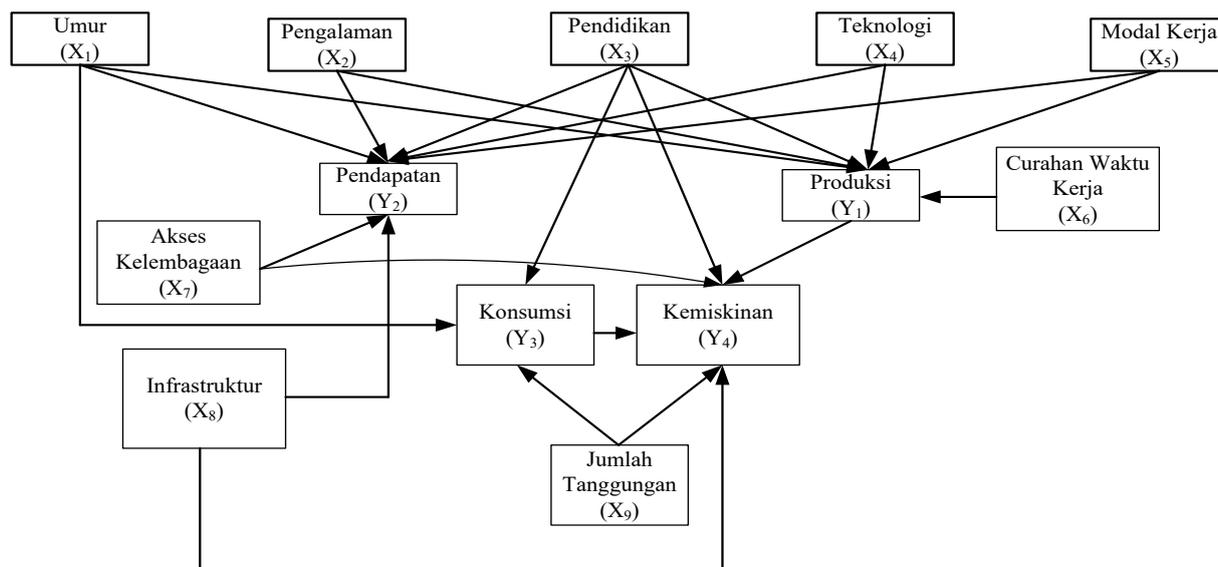


Figure 3.1. Conceptual framework

3.2. Hypothesis

Based on a conceptual framework that is designed can be formulated as follows:

1. Simultaneously and partial, age, experience, education, technology, working capital and working hours positive effect on the level of fish production in the coastal village of Eastern Aceh.
2. Simultaneously and partial, age, experience, education, working capital, access to institutional and infrastructure positive effect on the variable income families in the coastal village of Eastern Aceh.
3. Simultaneously and partial, age, education, family income and number of dependents positive effect on the variable consumption of families in the coastal village of Eastern Aceh.
4. Simultaneously and partial, education level, access to institutions, infrastructure, number of dependents and the production of fish a negative effect on poverty in the coastal village of Eastern Aceh.

4. Research Methods

4.1. The scope of research

Research studies on Aceh coastal region that included parts of East Coastal Village East Aceh and Aceh Langsa Tamiang. With the number of districts that are observed as many as 15 districts, with details of East Aceh as much as 6 districts, Langsa much as 5 districts and Aceh Tamiang as much as 4 districts.

4.1.1. Population

The population in this study is the poor people who live in rural or coastal village of Eastern Aceh, East Aceh, Langsa and Aceh Tamiang, the number of poor coastal population are unknown.

4.1.2. Samples

Sample or respondents in this study is the poor who are fishermen and live in the coastal areas of East Aceh, Langsa and Aceh Tamiang.

If the population of this study is unknown, it can be done sampling with the following formula is used,

$$n \geq pq \left(\frac{Z_{1/2} \cdot \alpha}{b} \right)^2 \text{ and } n \geq \frac{Z\alpha^2 p \cdot q}{d^2}$$

Description :

n: number of samples minimal

≥: Equal to or greater

p: Proportion of the population percentage of the first group

q: The proportion of the rest in the population (1-p)

Z_{1/2}: The degree of confidence coefficient at 99% or 95%

b & d₂: Approximate percentage chances of making a mistake in determining the sample size.

$$n \geq 0,25 \times \left(\frac{1,96}{0,05} \right)^2 = 384,16 \text{ dibulatkan} = 385 \text{ people}$$

4.1.3. First Hypothesis

The first hypothesis used multiple linear regression models estimated with Ordinary Last Square method (OLS) as follows:

$$Y_1 = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5 + b_6 X_6 + e_1$$

Description:

Y = Production of fish

a = Intercept

b₁ - b₆ = Coefficient

X₁ = Age (years)

X₂ = Experience (years)

X₃ = Education (years)

X₄ = Technology (types of fishing gear)

X₅ = Working capital (rupiah)

X₆ = outpouring of working time (hours)

e₁ = Residual

4.1.4. Second hypothesis

The second hypothesis, used multiple linear regression models estimated with Ordinary Last Square method (OLS) as follows:

$$Y_2 = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_7 + b_6 X_8 + e_2$$

Description :

Y₂ = income families (rupiah)

a = Intercept

b₁ - b₅ = Coefficient

X₁ = Age (years)

X₂ = Experience (years)

X₃ = Education (years)

X₄ = Funding work (rupiah)

X₇ = access institutional (type)

X₈ = Infrastructure

e₂ = Residual

4.1.5. Third Hypothesis

The second hypothesis used multiple linear regression models estimated with Ordinary Last Square method (OLS) as follows:

$$Y3 = a + b1 + b2 X3 X1 Y2 + b3 + b4 + e3 X9$$

Description :

Y3 = Consumption of families (rupiah)

a = Intercept

b1 - b4 = Coefficient

X1 = Age (years)

X3 = Education (years)

Y2 = Number of dependents (Orang)

X9 = income families (rupiah)

e3 = Residual

4.1.6. Fourth hypothesis

The second hypothesis used multiple linear regression models estimated with Ordinary Last Square method (OLS) as follows:

$$Y4 X3 = a + b1 + b2 + b3 X7 X8 X9 + b4 + b5 Y1 + e4$$

Description :

Y4 = Poverty

a = Intercept

b1 - b4 = Coefficient

X3 = Education (years)

X7 = institutional access

X8 = Infrastructure

X9 = Number of dependents (people)

Y1 = Production of fish (kg)

e4 = Residual

5. Results And Discussion

5.1. Results Equation Model Estimation

5.1.1. Fish Production Estimation Model

Based on the results print out put SPSS 22 age factor (X1), experience (X2), education (X3), technology (X4), working capital (X5) and working hours (X6) on the production of fish (Y) can be presented in the form the estimation model as follows:

$$Y = 68\,328 + 12\,158\,0646 X1 + X2 + 3,359 X3 - 0.043\,0.00027 X4 + X5 + X6\,2104$$

TSIG (0,101) (0,380) (0,000) (0,158) (0,287) (0,059) (0,409)

Fsig- = 0.000

R2 = 0406

Positive age coefficient and significant age meaning cannot explain significantly and cannot be considered to determine fish production. The elements of the fishermen's life have not been a dominant characteristic in determining the production of fish, may be another factor characteristics that can be considered in describing fish production variables.

Positive Experience and significant impact on fish production that is consistent with the hypothesis that positive built. Increased fishing experience will necessarily increase the production of fishing. This could be caused by fishing experience can detect the presence of fish so that the fish resources are caught by fishermen will provide optimal results.

Variable coefficient is positive, meaningful education the higher education, the higher will be the production of fish produced. The results condition in a positive direction is not enough empirical evidence in accordance with the conceptual framework constructed hypothetical. Positive Condition coefficient of this empirical result, a decision supported by statistics, the Sig greater than the tolerance α (Value Sig = 0158 > tolerance α = 0.05), thus received hypothetical zero. Decisions of this statistical test to decide the education variable were not significant positive effect on the production of fishermen at the 95% confidence level. Why education variable and not significant positive effect on total catches, this is caused by the education pursued by fishermen not lead toward fishing techniques, it is common knowledge. Technological coefficient is negative and not significant at the 95% confidence level, the characteristics of the technology has not been enough evidence to suggest it is contrary to the concept of empirical built. Technology applied in an effort fisherman fishing in the sea is not the modern technology that specifically, can be applied in various conditions specific fishing season. So the technology applied is adjusted to the fishing gear fishing season. While the existence of sources fish resources are already limited, so that the technology applied is not actually increase the production of fish from fishermen, fish production in fact even be negative. Fish production is not the same as in the industrial production of goods that do not depend on the nature. Production of goods can be conditioned, but Sangatta fish production depends on natural conditions.

Working capital is a significant positive effect on production of fish catch of fishermen. This is consistent with the conceptual framework is built. In the fishing effort, working capital becomes the dominant factor that both of the other factors of production. Working capital required in an attempt to catch fish fishermen be considered in determining the production of fish other production factors such as materials technology and working hours will determine the outcome for fishing.

Working hours and no significant positive effect and this characteristic is not enough evidence in accordance with the conceptual framework is built. Working hours to catch fish that will increase in line with the catch obtained. This could be caused by the resources of fish caught at sea in certain zones already over fishing. In the rainfall season is not significantly increased working time to give positive effect to the production of fish caught. Fishing zone to catch a classification needs to be set back, not to place the vessels fishing in the EEZ regulated zones. Precisely capture the zone designation of small vessels. Over fishing occurs with the outpouring of the time of arrest. Necessary regulatory and enforcement of other rules in the fishing line with fishing equipment used.

Simultaneously age, experience, education, technology, business models and working hours can explain variations in production amounted to 48.60%. The coefficient of determination is low in and if used for education will provide the level of uncertainty in fish production. The low coefficient of determination may be caused by the nature of the necessary data estimation model is not appropriate or bias in the model specification.

Model estimates of asymptomatic multi nonlinearity because none of the independent variables included the degree of correlation greater than 0.80. **Hetero kendastisitas** contained in the variable experience, technology and working capital. Members did not autocorrelation decisions because indigo DW count is greater than dL and less than dU.

Age no significant positive effect on family income is not consistent with the hypothesis built. Conditions will determine the age of a person against the person's positive earnings, increasing a person's age to a certain extent will deliver a positive earnings result of statistical test is not significant at the level of the age of the 95% confidence level. Conditions of

respondents aged study area showed a positive effect on family income but not enough evidence in accordance with the theory or hypothesis constructed concept.

A positive experience and significant of the person has impact on income. These conditions provide an overview on research areas in accordance with the theoretical concept and it can be proven empirically. One's experience in the area of research can be taken into consideration in determining policy decisions increased revenue in development planning. One's experience becomes an important element, along with other elements in determining family income.

The empirical results of education are not significant negative effect on family income of education' characteristics background in accordance with constructed the theoretical hypotheses. The level of a person education has not be considered conclusive in determining the direction of increasing family income is positive. For the eastern part of Aceh coastal areas cannot be taken into consideration, the level of education will be a significant positive effect on family income. Characteristics of education are still determined by the characteristics of other respondents and environmental conditions and access to the institutional infrastructure.

Positive working variable capital and significant impact have affected on increasing the family income. To determine family income can be considered conclusive in working capital, but they are also dependent on social capital. To earn income, they simply rely on labor or services as workers. So do not make working capital as a variable resulting in the production of fish as a source of family income.

Institutional access of fishermen will affect the family income, empirically consistent with the hypothesis that built fishing communities. The wide access to economic and social institutions will give more economic opportunities and found to be a source of family income. Institutional access to the increase in revenue can be considered policies, plans an increase in family income of fishermen.

Existing infrastructure research area is not strong enough to affect the income of the family, because of the empirical study is not significant at the 95% confidence level. The existing infrastructure in the community has not shown significant in supporting the economic activities of the business community, the existing infrastructure in the research area are still limited, show significant dominant role. Development of infrastructure to support economic efforts in order to increase revenues society needs to be strengthened in the preparation of rural economic planning. So the role of infrastructure can be optimized in order to increase family income.

Simultaneously age, experience, education, working capital, access to institutional and infrastructure can explain variations in family income amounted to 38.80%. The magnitude of the coefficient is terminated can be said to be low. Meaning low coefficient terminated if it is used for forecasting will provide variable uncertainty where the family income. There are some things that cause a low coefficient terminated. Especially the nature of the necessary data is not appropriate estimation model and the impact on low coefficient terminated. Both independent variables are included in the estimation model built not in accordance with the estimation model will generate a low coefficient determinant. The low coefficient of determinant in the second structure equation into consideration in determining the decisions are based on family income to the independent variables included in the model estimates that it will be the dominant ruling family income is determined by variables that are not included in the estimation model built in explaining the family income.

Independent Multikolinearitas symptomatic variable is correlated with other greater variables 0.8. because has no one Variable symptomatic Heteroskedastisitas experience and age, education, working capital, institutional and infrastructure access asymptomatic Heteroskedastisitas related to decision Model estimates autocorrelation.

5.1.3. Model Estimation of the Consumption Function

Based on the results of research output SPSS Age factor (X1), Education (X3), Number of dependents Family (X9), Revenue (Y2) on Consumption Family (Y3) can be presented in the form estimation model as follows:

$$Y3 = -59894,356 -1059,546 X1 + X3 + 2142.325 0998 7858.292 X9 + Y2$$

TSIG (0,026) (0,038) (0,288) (0,015) (0,000)

Fsig- = 0.000

R2 = 0988

Life characteristics in determining consumption are not consistent with the hypothesis. Empirically age of fishermen in the study area quite evident has a negative impact on fishermen consumption. The higher level of fisherman's life increasingly limit of consumption level that are secondary needs caused by low incomes. Life characteristics can be a basic consideration in an effort to increase family consumption through purchasing power.

Education background of fishermen has no significant positive effect on consumption decisions. This is due to the limitations of the income of fishermen so there is no choice of family consumption. So education in the area of research has not been dominant in the family consumption decisions.

MPS coefficient (Marginal Propensity to saving) is small is due to a large MPC MPS showed 0:02, meaning every Rp. 1.000.000, - obtained, then the only remaining / not consumed by Rp.2.000, - MPS small cannot be function properly as a precaution, especially for health or human capital investment.

Family income of fishermen has most decisive decisions for consumption. The empirical results shows the coefficient of disposable income on consumption

5.1.2. Revenue Estimation Model Family

Based on the results print out put SPSS 22 age factor (X1), experience (X2), education (X3), technology (X4), working capital (X5) and working hours (X6) to the family income (Y2) can be presented in the form the estimation model as follows:

$$Y2 = 299868.055 69741.626 + 398 138 X1 + X2 - 16131,838 0289 X3 + X5 + X7 + 27824.929 68093.211 X8$$

TSIG (0,450) (0,929) (0,000) (0,266) (0,001) (0,004) (0,318)

Fsig- = 0.000

R2 = 0388

by 0988. Gini coefficient describe almost any income earned is used for consumption. Marginal Propensity to Consume (MPC) which is great close to 1, this is an indication of the poor. If a limited income, the consumption is also limited and will also affect the structure of the vicious circle of poverty. The efforts in increasing of fishermen's income become more important in coastal village area development planning. With a certain income, will provide a strong purchasing power and would encourage other economic activities.

In addition to family income determine empirically the consumption of decisions, number of family also determines family consumption. Most of families are filled with more and more

consumption. It is necessary to promote the business community's economic activities through empowerment-based economy with a wealth of coastal resources. Collective age, education, family income and number of dependents significant effect on family consumption. But the empirical estimation model does not describe estimation models either, as the coefficient of determination showed 98.80%. This condition describes the characteristics of the study variables and real consumption may be a consideration in the decision of planning the consumption of coastal communities.

The independent variables correlation between estimates of multi-kolinerity asymptomatic model has no correlation with greater than 0.8, but education variable, the dependent number and family income hetero-kendastisitas asymptomatic have correlation with age, symptomatic hetero-kendastisitas and the model estimates of asymptomatic autocorrelation

5.1.4. Poverty Estimation Model

Based on the results of research output SPSS 22 Education factor (X3), Access Institutional (X7), Infrastructure (X8), Number of dependents (X9) and Fish Production (Y1) Against Poverty (Y4) can be presented in the form estimation model as follows:

$$Y = 3.391 + 0.022 X3 - X7 0.036 - 0.080 X8 - X9 0074 - 0003 Y1$$

$$TSIG (0,000) (0,071) (0,066) (0,001) (0,000) (0,000)$$

$$Fsig = 0.000$$

$$R2 = 0415$$

Age, spending, education and number of dependents have dominated features. Characteristic someone, empirically not provide negative and significant impact on the welfare of a person. Because of poverty a person is a person's ability in meeting their needs is materially limited. While age, education, number of dependents, access to institutional and fish production is directly related to revenue. A person's income will determine the ability to meet their needs. Education will determine the economic effort better, but the education of fishermen actually had exacerbated poverty. Educational conditions of fishermen cannot be relied to do better. This is due to isolated areas and sectors of economic activity focused on fisheries.

In addition, the fishing effort does not need higher education. Access institutional positively contribute to economic activity, the empirical evidence is not enough to reduce poverty the role of institutional access someone. Institutional access capabilities need to be improved, which can sustain earnings better reflect the non-poor.

The existing infrastructure in the fishing environment can reduce poverty a fisherman; the better existing infrastructure can respond better business capabilities which reflect better revenue. Infrastructure so that someone can respond reducing poverty. Number of dependents in the context of fixed income will increase a person's degree of poverty. Empirically precisely the number of family dependents will reduce the degree of poor person. This is due to the motivation to try harder to meet the family economy. So with a good income will provide poverty reduction.

Production of fish is a source of income that will determine the income of fishermen and will reflect the poverty / fish production produced better fishing will reduce poverty, even free from poverty. Fish production is difficult to increase the catch because fishing grounds are already inadequate, need to make regulation a sustainable fishing policy, so that fishermen can catch fish in a sustainable manner and to guarantee the production of fish, as well as earnings can meet the various needs of life.

The variables of education, access to institutions, infrastructure, number of dependents and fish production through a positive contribution to poverty reduction fishermen have impact

significantly, but the model estimates that produced empirically only able to explain variations in poverty amounted to 41.50%, while the remaining 58.60%, explained by variable other which is not included in the estimation model. The coefficient of determination is not in accordance with the theoretical model. This may be caused by the processing of data that is inaccurate or biased estimation models. This estimation model may be better off using path analysis or simultaneously.

Model estimates of asymptomatic multi-kolnearity because none of the independent variables are correlated greater than 0.8. Model estimates of asymptomatic hetero-kendastisitas and the estimation model does not decide the autocorrelation symptoms.

6. Conclusions And Suggestions

6.1. Conclusion

Based on the analytical model applied can be summarized as follows:

A. First Structural Equation.

1. Simultaneously age, experience, education, technology, working capital and working hours significantly influence fish production levels at the 95% confidence level.
2. Partially age, education, working capital and working hours and no significant positive effect on production of fish and experience a significant positive effect on fisheries production at 95% confidence level.
3. Partially technology and variable working hours and no significant negative impact on the level of fish production at 95% confidence level.

B. Second Structure Equation

1. Simultaneously age, experience, education, working capital, access to institutional and infrastructure significant effect on family income at the 95% confidence level.
2. Partially variables, experience, working capital and access to institutional positive and significant impact on family income at the 95% confidence level.
3. Partially age variable and infrastructure are not significant positive effect on family income at the 95% confidence level.
4. Partially education no significant negative effect on family income at the 95% confidence level.

C. Third Structural Equation

1. Simultaneously age, education, number of dependents, income significant effect on the level of family consumption at the rate of 95% .
2. Partially family income and number of family dependents positive and significant impact on the consumption of families at the 95% confidence level.
3. Partially age were not significant negative effect on household consumption at 95% confidence level.

D. Fourth Structural Equation

1. Simultaneously, the variables of education, access to institutions, infrastructure, number of dependents and the fish production significantly influence poverty reduction at the 95% confidence level.
2. Partially education is a significant positive effect on the increase in poverty at 95% confidence level.

3. Partially, institutional access an insignificant effect on poverty reduction at the 95% confidence level.
4. Partially, infrastructure, number of dependents and the fish production significantly influence poverty reduction at the 95% confidence level.

5.1. Suggestions

Based on the description of the discussion and conclusions can be suggested as follows:

A. First Structural Equation

1. Consider the decision in an effort to increase fish production is necessary to empower the business by means of intensification and extension of the government to provide services credit policy of cheap working capital.

B. Second Structure Equation

1. Consideration of the decision in order to increase the income of fishermen need to plan the development of institutional banking access, market access output and input market access.

C. Third Structural Equation

1. Consideration of the decision determining the direct consumption is income families. For that we need a policy that the government directly motivating, empowering the business community through *agromerinepolitian* program and build basic infrastructure and involving the community in planning the village.

D. Fourth Structural Equation.

1. It should be taken into consideration in the planning of poverty alleviation build market facilities, access to financial institutions and basic infrastructure to increase the production of fish caught as well as the policy of increasing the added value of the catch.
2. For researchers who want to observe a similar case needs to perform independent variable modifications that have been built and may make measurements of variables or modification of the model analysis.

References

- Adhar. 2012. Skripsi. *Analisis Faktor-Faktor Yang Mempengaruhi Tingkat Pendapatan Usaha Nelayan Di Kabupaten Bone*. Jurusan Ilmu Ekonomi Fakultas Ekonomi dan Bisnis Universitas Hasanuddin Makasar.
- Badan Pusat Statistik. 2013. *Persentase dan Garis Kemiskinan di Propinsi Aceh*. Diakses via Internet <http://aceh.bps.go.id>. Diakses pada tanggal [10/12/2013].
- Chozin, M.A. et al. 2010. *Pembangunan Perdesaan dalam Rangka Peningkatan Kesejahteraan Masyarakat*. Bogor. IPB Press
- Edy Yusuf Agunggunanto, *Analisis Kemiskinan Dan Pendapatan Keluarga Nelayan Kasus Di Kecamatan Wedung Kabupaten Demak, Jawa Tengah, Indonesia*, Fakultas Ekonomika dan Bisnis Universitas Diponegoro Semarang
- Harahap, S.A. 200. Tesis. *Analisis Masalah Kemiskinan Dan Tingkat Pendapatan Nelayan Tradisional Di Kelurahan Nelayan Indah Kecamatan Medan Labuhan Kota Medan*. Program Pascasarjana Universitas Sumatera Utara
- Heryansyah, Muhammad S, Syahnur S. Jurnal Ilmu Ekonomi Pascasarjana Universitas Syiah Kuala. *Analisis Faktor-faktor Yang Mempengaruhi Produksi Nelayan di Kabupaten Aceh Timur*. Volume 1 No. 2 Mei 2013.

- Iskandar. 2003. *Analisis Kemiskinan Masyarakat Nelayan di Kecamatan Medan Belawan* (Studi Kasus di Kelurahan Belawan II dan Belawan Bahari). Program Pascasarjana Universitas Sumatera Utara
- Jhingan M.L. 2010. *Ekonomi Pembangunan dan Perencanaan*. Cetakan ke-13. Penerbit PT. Raja Grafindo Persada, Jakarta.
- Maipita, Indra. 2013. *Memahami dan Mengukur Kemiskinan*. Yogyakarta. Absolute Media _____, 2013. *Memahami dan Mengukur Kemiskinan*, Yogyakarta. Absolute Media
- Mussawir. 2009. Tesis *Analisis Kemiskinan Nelayan Tradisional di Desa Padang Panjang Kecamatan Susoh Kabupaten Aceh Barat Daya Propinsi Nanggroe Aceh Darussalam*. Sekolah Pascasarjana Universitas Sumatera Utara.
- Mulyadi S, 2005. *Ekonomi Kelautan*. PT. Raja Grafindo Persada. Jakarta.
- Natalia M, Alie, MM. 2014. *Kajian Kemiskinan Pesisir Di Kota Semarang (Studi Kasus: Kampung Nelayan Tambak Lorok)*". Jurnal Teknik PWK Volume 3 Nomor 1 2014
- Sasmita D. 2006. Tesis. *analisis faktor-faktor yang mempengaruhi pendapatan usaha nelayan di Kabupaten Asahan*. Program Pascasarjana Universitas Sumatera Utara
- Seran S. *Determinan Faktor Sosial dan Ekonomi Terhadap Kemiskinan Penduduk* Jurnal Ekonomi Pembangunan Volume 13, Nomor 1, Juni 2012
- Sujarno, 2008. Analisis Faktor-Faktor Yang Mempengaruhi Pendapatan Nelayan di Kabupaten Langkat. Tesis. Medan: Universitas Sumatera Utara, Program Pascasarjana.
- Sukirno, Sadono. 2010. *Ekonomi Pembangunan Proses, Masalah, dan dasar Kebijakan*. Jakarta. Prenada Media Group
- Tain A. 2011. *Penyebab Kemiskinan Rumah Tangga Nelayan di Wilayah Tangkap Lebih Jawa Timur*. Jurnal Humanity Vol 7, No 1, September 2011: 01 - 10
- Todaro, M.P and S.C. Smith. 2006. *Pembangunan Ekonomi*. Jilid 1. Edisi 9. Alih Bahasa. Jakarta. Erlangga.