The effect of asset ownership on the poverty in Pidie, Aceh Province, Indonesia

Zakiah¹, A Arida¹, F Zuhra²
¹Agriculture Faculty, Syiah Kuala University, Jl Tgk Hasan Krueng Kale No 3 Kopelma Darussalam, Banda Aceh, Indonesia
²Economic Faculty, Al Muslim University, Jl Al Muslim, Matangglumpangdua Bireun, Aceh Province, Indonesia

*Email: zakiahhasan73@unsyiah.ac.id

Abstract. The purpose of this study is to analyze how the effect of asset ownership on poverty in Pidie, Aceh. This research used two stage sampling. First, village elections conducted by purposive sampling, based on the topography of mountainous regions, coastal and lowland. The village Bunien represent the type of lowland areas, Meunasah Gong represents the type of coastal areas and village Peunalom 2 represents the type of mountain areas. Second, samples household selected by stratified sampling that is poor and not poor household. The analysis model using logit models. Household income, education, household size working and employment status household head, spacious houses and agricultural land are determinant of poverty and potentially reduce the level of poverty in the Pidie. While number of children, working in agriculture sector, labourer or landowner status, opportunity to increase the level of poverty. To reduce poverty, government must promote the agricultural sector, because many of the poor are farmers. In the long term, the government must give priority to the education and health sectors. Such as the exemption costs of education for poor students and free health services for the poor. The first section in your paper

1. Introduction
Poverty still a big problem in Aceh. For the last 10 years, Aceh is one of the ten poorest provinces in Indonesia. Even in 2018, Aceh was ranked sixth in Indonesia's poorest. The number of poor people in Aceh province until today on above Indonesia’s average poverty rate. Percentage of poverty in Aceh at 2018 is 15.92 percent, while Indonesia’s average percentage 9.66 percent. Poverty in rural areas is much higher than in urban. In 2018 poverty in rural is 13.1 percent, while in urban is 6.89 percent [1]. Imbalances development between rural and urban areas is one cause of high rural poverty as is the case in Pidie District. Pidie District is one district that poverty is much higher than the average poverty in Aceh province. The percentage of poverty in Pidie is 20.66 percent. This figure is very high compared to the national and provincial poverty rate.

The perspective of poverty has many criteria. According to the BPS poverty criteria including how ownership of the assets owned by a household. Regency in Pidie has 81.43 percent of households living in their own homes, while those not occupy their own homes as much as 18.57 percent of households. The percentage of households living criteria instead of ground floor which is 93.87 percent. Similarly, the household roofs widest not made from fibers, thatch and on the walls of widest
wall that is 78.58 percent and 41.73 percent. Meanwhile, the number of households with a home with a floor space of less than 19 m² fell to 2.35 percent. A number of indicators are indicating a health care quality improvement household residence in the district of Pidie [1].

The conditions of poverty in the areas in Pidie different on coastal areas, lowland areas, and mountainous areas. The difference is due to differences in regional conditions and needs. It is caused by unfulfilled basic rights of the people, among others, such as the need for food, jobs, and infrastructure. In addition, the lack of business opportunities, lack of access to information, technology and capital, culture and lifestyle are quite extravagant causing the bargaining position of the poor at Regency of Pidie getting weaker. The authors therefore wants to see how the determinants of poverty in Pidie in Aceh Province.

The concept and definition of poverty is very diverse. Is not easily to define and measure poverty for certain, because poverty often contain elements, values and perceptions are relative. Diversity was also caused by the data and methodology different from the each of experts and institutions in measuring poverty. [2], defines poverty as situation of deprivation material possessions suffered by any person or group of people who live in an environment completely poor, not enough capital either in the form of money, knowledge, law, social forces, public access and limited job opportunities. [3] poverty can be measured without or with reference to the poverty line (poverty line). [3] is associated with poverty according to income levels and minimum basic needs to be able to live in dignity. Somebody be said poor if the income does not fulfil the minimum basic needs such as food, clothing, health, housing and education. Poverty refers to a poverty line called absolute poverty, otherwise poverty does not refer to the poverty line called relative poverty.

Relative poverty is a concept of poverty caused by inequalities in income distribution. [4] defines poverty as a relative poverty due to the influence of development policies that have not been able to reach the whole community. This is what causes income inequality. In measuring relative poverty, a person who has been able to meet its minimum needs are not necessarily called non-poor. The condition of a person or household, when compared with the surrounding communities have a lower income, then the person or the family may be said in a poor state. Thus, poverty is determined by the state of society, where people are living. [5] and [6] states that the regions with high poverty rates are generally caught in a spiral of poverty (vicious circle), where there are a series of factors causing poverty interacting, such as low investment, savings, lack of capital, low productivity and income.

[7] make a distinction poverty measure as an opportunity to accumulate social forces, including: a) the assets of land, housing, equipment, and health, b) financial resources, socio-political organization, knowledge, skills and information. [8], poverty is a matter that must be measured multidimensional. Poverty is not only measured according to income but also wealth such as land ownership and access to public services. Poverty is multi dimensional, it means for human needs vary, so poverty was a lot has aspects of primary form of poor assets, socio-political organization, knowledge and skills and aspects of secondary form of poor social network, financial resources and information, dimensions of poverty are manifested in the form of malnutrition, water, healthy housing, health care and poor education levels are low. In addition, Dimens poverty-dimensional interconnected either directly or indirectly. This means progress or setbacks in one aspect can affect other aspects of progress or setbacks. And other aspects of poverty is that the poor human beings, both individually and collectively [9].

Poverty has no analogous human civilization. Along with the development of human civilization, a variety of activities to meet the increasingly varied and complex needs. The process of civilization of mankind, especially in the process of economic transformation was not able to be arrested by the whole society. Most people successfully utilize the opportunity and the opportunities available so that they become economically prosperous groups, but most people who are not able to access and capture the changes around him will be left behind and will bring poverty in the community concerned [10]. Poverty has been expanded, along with the complexity of factors, indicators and other issues surrounding it. Poverty is no longer simply be regarded as an economic dimension, but has expanded to the social, health, education and politics. Poverty is a situation or condition that is experienced by a
person or group of persons who are not capable of organizing his life to an extent that is considered humane [11]. The condition causes of unmet demand for basic or human rights such as food, clothing, shelter, affection, security, cultural identity, protection, creativity, freedom, participation and free time [12].

According to some experts poverty is defined simply as an economic phenomenon, in the sense of low income or does not possess sufficient livelihood for a dependent life. Comments like this for much may be true, but it is recognized or not less reflect the actual real conditions faced by poor families. Real poverty is not merely a lack of income to meet basic living needs or decent living standards, but more than that the essence of poverty is related to the possibility of a person or of poor households to establish and develop economic activities in an effort to improve the standard of life [13].

There are several factors that cause a person to include in the category of poor. However, according to the World Bank are at least three major cause of poverty, namely: a). Low income and assets to meet basic needs, such as food, shelter, clothing, health and education, b). Inability to speak and lack of strength in front of state institutions and society, c). Vulnerable to economic shocks, related to the inability to cope.

The World Bank have poverty indicators which consists of a). Ownership of land and capital are limited, b) Limited facilities and infrastructure required, c). Construction of the bias in the city, d). Differences opportunities within communities, d). Differences in human resources and economic sectors, e). Low productivity, f). Cultural life is bad, g). Poor governance, h). Natural resource management excessive [14].

2. Methods
The method used in this research is survey method. Decision village sample conducted purposive sampling. Purposive sampling is deliberately based on topography mountainous areas, coastal and lowland. The three conditions contained in Simpang Tiga and Tangse. From both the sub district in choose village Bunien represent the type of lowland areas, Meunasah Gong represents the type of coastal areas and village Peunalom 2 represents the type of mountain areas.

From each of the villages in the area were taken sample is stratified sampling that samples of poor households and sample non-poor households. The amount of the sample amount taken, namely 10% of the total population that is 45 families where Meunasah Gong is most compared samples Bunien village and Peunalom 2. Poor criteria in this research from raskin recipients.

Analysis model used in this research is a logit regression. Logit model is where the independent variables are qualitative, for example, form a binary variable (two categories) logit models are based on a function of cumulative logistic opportunities are specified as follows [15].

\[
\ln \left( \frac{r_i}{1-r_i} \right) = \beta_0 + \beta_1 X_{1i} + \varepsilon_i
\]  

Information :
\( e = \text{Numbers base of the natural logarithm (ln) of 2.71828128} \)
\( \Pi = \text{The probability that an object observation of all i would be classified as poor by specific values of the independent variables Xj.} \)

While the independent variables (Xj) are factors Household characteristics, and the characteristics of individual. Through the process of reduction in the cumulative function of logistical opportunities, it can be built for the purposes of estimating logit model empirically, as:

\[
\ln \left( \frac{r_i}{1-r_i} \right) = \beta_0 + \beta_1 X_{1i} + \varepsilon_i
\]
In order to make linear, the transformation of the natural logarithm (ln) distribution "Logit Transformation" so that become:

\[
Y = \frac{1}{1 + e^{-X}}
\]

\[
\hat{Y} = \frac{1}{1 + e^{-\beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \beta_8X_8 + \beta_9X_9}}
\]

3. Results and Discussion

Poverty is closely related to income levels. The results showed that 62.2 percent of households still have low income levels and below from UMR Pidie. The low level of income is supported by the low level of education of head of household in the study area. The results showed as many as 66.7 percent of household education level is below 9 years and 48.9 percent of household head do not have a steady job. In addition, as many as 68.9 percent of household head still work as laborers crop farming sector. The area of the house owned is still very low. This research show that 57.6 of households still had area of house less than 8 m². Logistic regression analysis model to determine poverty in Pidie, can be seen in table 1.

From the results of logistic regression states that the increasingly high number of household income will reduce the level of poverty. Odds Ratio value of a variable number of household income is 0.017. This means that if the amount of household income of more than IDR 1,487,500 per month, then the
chances of poverty will decrease 0.017 times compared to families whose income is less than IDR 1,487,500 per month. Total household income significantly affect the level of poverty in the area of research. Increasing the number of household income can reduce the level of poverty, which means increasing the amount of income families the opportunity to escape from poverty even greater.

| Variable | Coefficient (B) | Sig | Exp (B) (Odds Ratio) |
|----------|----------------|-----|---------------------|
| X₁       | -4.100         | 0.015 | 0.017               |
| X₂       | -4.619         | 0.020 | 0.010               |
| X₃       | 5.775          | 0.036 | 0.152               |
| X₄       | -4.921         | 0.048 | 0.007               |
| X₅       | -0.131         | 0.049 | 0.009               |
| X₆       | 4.081          | 0.033 | 0.097               |
| X₇       | 4.654          | 0.041 | 0.081               |
| X₈       | -3.221         | 0.044 | 0.040               |
| X₉       | -1.749         | 0.034 | 0.017               |
| Constanta| -0.204         | 0.919 | 0.816               |

Education plays an important role in the households to get out of poverty. Odds Ratio variable value of education of household head is 0.011, meaning the head of the family who have the highest education of more than nine years, the odds of poverty will decrease 0.010 times compared household head who have less than 9 years of education. Education household head is very significant that the decline in poverty.

This goes along with the opinion of [17], which states that the interrelationship of poverty and education is huge because education provides the ability to evolve with the mastery of knowledge and skills. [18] also said that education is measured by the number of people who graduated junior high school, high school and diploma have large and significant effect on the reduction in the number of poor people. This reflects that the the construction of of human capital (human capital) through education is an important determinant to reduce the number of poor people.

Odds Ratio value of a variable household size is 0.152, it means households have a household size of more than 4 people, then the chances of poverty will increase by 0.152 times, compared to households that have a small household size of four people. This effect was statistically significant. The number of family members is an important factor affecting household poverty [19-23]. This factor affecting poverty in two directions. First, directly to the growing household size will depress the level of real consumption of family members. Second, even if each member of the household has income, income per capita can be decreased by increasing the number of families with regard to diminishing marginal productivity [19, 21, 23].

Based on the value Odds Ratio variable number of family members working, the household that has a number of family members who work more than 2 the opportunity poverty will decline by 0.007 times than the number of households that have family members who work for less than 2. The analysis also showed that the number of family members have a significant effect on poverty levels in the study area. Head of household who has a steady job that will reduce poverty, compared with the household head that employment status is not fixed. This can be seen from the value of the state variable Odds
Ratio occupation of household head is 0.009, it means households have permanent employment status household head, poor the opportunity will decrease 0.009 times compared households headed by employment status is not fixed.

While the status of job families who work in agriculture or not real impact on poverty. From the odds ratio value known if the head of the family worked in the agricultural sector will increase the chances of poverty 97.017 times than households that have household head working in non-agricultural sectors. This indicates that farmers in Pidie Regency generally live in poverty. These farmers are food farmers who live in rural areas, with the level of knowledge and skills that are lacking, very limited capital and low technology mastery.

In addition, if the head of the family as laborers, crop farming sector, based on the results of logistic regression will also increase the chances included in the category of poor. Value Odds Ratio variable sector trade crop farming is 0.097, it means households have household head work as laborers agricultural crops, then the chances of poverty will rise 0.097 times than households that have household head did not work as laborers agriculture crops. If viewed from a significant level of worker status is a significant effect on poverty.

Increased of house owned have real impact on poverty reduction. The more area house owned by a household, will reduce poor level household. Value Odds Ratio of are house variable is 0.040, it means households have a area house more than 8 m², the odds of poverty will decrease 0.040 times compared to households that have less than 8 m² area of house. Agricultural land real impact on the status of whether or not a household is poor. Increased agricultural land will reduce poverty. Odds Ratio variable value of agricultural land is 0.017, it means households owning agricultural land area of over 500 m², then poverty would decline compared to 0.017 times the number of households had less agricultural land area of 500 m². From the analysis above it is clear that the asset owned by a household largely determine the level of poverty the household.

4. Conclusions
Asset ownership determines the level of poverty. Household income, highest education household head, number of household members who work and employment status, space of houses and agricultural land is a determinant of poverty and a chance to reduce the level of poverty in Pidie, while the number of family members, the head family working in agriculture, crop farming sector workers is the opportunity to increase the level of poverty.

In the short term, the main priority that should be developed and the attention of the government to reduce poverty is to promote the agricultural sector because agriculture is basic sector to improve economic performance in rural. The local government should increase the budget for agriculture sector including for the development of agricultural technology, increasing land ownership by printing new fields, training programs to increase the resources of farmers grup members, program soft loan (KUR), mentoring programs, and open access to the market.

In the long term, the priority is on the education and health sectors. The local government should increase the budget for the education sector (ex improving the welfare of teachers, school operating costs related to teaching and learning activities). In the health sector budget increase is especially for free health care for the poor.

References
[1] Badan Pusat Statistik 2018 Statistik Daerah Kabupaten Pidie BPS Pidie
[2] Bigsten A and Kayizzi-Mugerwa S 1992 World Development 20 1423-41
[3] Todaro M P 2000 Economic Development Seventh Edition Addison Wesley Longman
[4] Badan Pusat Statistik 2009 Analisis dan Perhitungan Tingkat Kemiskinan Aceh Tahun 2009
[5] Jhingan M L 2000 Ekonomi Pembangunan dan Perencanaan Rajawali Press
[6] Kuncoro M 2009 Ekonomi Indonesia: dinamika Lingkungan Bisnis di Tengah Krisis Global UPP STIM YKPN Yokyakarta
[7] Friedman J 2003 How Responsive Is Poverty To Growth? A Regional Analysis Of Poverty, Inequality, And Growth In Indonesia Development Economics (UNU-WIDER).
[8] Bellinger W K 2007 The Economic Analysis of Public Policy Oxon Routledge
[9] Arsyad L 1999 Pengantar Perencanaan dan Pembangunan Ekonomi Daerah BPFE Ypkyakarta
[10] Suyanto B 1995 Perangkap Kemiskinan : Problem & Strategi Pengentasannya (Surabaya: Airlangga University Press)
[11] Zakiah dan Fauzan 2018 MIMBAR 34 301-309
[12] Parwoto 2001 Penanggulangan Kemiskinan Departemen Permukiman dan Pembangunan Sarana Wilayah Kementerian Pekerjaan Umum dan Pemukiman Rakyat Jakarta
[13] Soetrisno L 2001 Menuju Masyarakat Patrisipatif Kanisius Yokyakarta
[14] World Bank 2005 Introduction to Poverty Analysis: Poverty Manual World Bank
[15] Greene W 2000 Economic Analysis Fourth Edition Practice Hall New York
[16] BKKBN 1998 Masalah Kependudukan Indonesia Pusat Jaringan Nasional Informasi dan Dokumentasi BKKBN Jakarta
[17] Suryawati C 2005 Manajemen Pembangunan dan Kebijakan 8 121-129
[18] Siregar H dan Wahyuniarti D 2008 Litbang deptan 1 23-40
[19] Sigit H 2004 Total Factor Productivity Growth: Survey Report Japan Asian Productivity Organization
[20] Alamgir M and Ahmed S 1988 Rural Poverty South Asia 21 11-38
[21] Kuznet S 1989 Economic Development, the Family and Income Distribution. Selected Essays (Cambridge : Cambridge University Press
[22] Gaiha R 1989 Cambridge J. Economics 13 333-352
[23] Firdaussy C M and Tisdell C 1992 J. of Economics Student 29 19 – 34