



## EDUCATION, GENDER, AND POVERTY REDUCTION

Putri Ulfa Kamalia    Ady Soejoto    Luqman Hakim

**Abstract.** *This research aims to analyze the effect of education and gender on poverty either partially or simultaneously. This research was conducted in Madura Island which has four districts namely Bangkalan, Sampang, Pamekasan and Sumenep. Each Kabupaten in Madura Island is the region with the most poverty in East Java, Indonesia. This research used quantitative-associative approach with regression panel data analysis method. Education is measured by level of education, gender is measured by Gender Development Index and poverty is measured by poverty level. Period of observation for five years in four districts in Madura Island. The results show that there is a significant negative effect of education on poverty. This means that if the level of education increases then it will reduce poverty. However, there is no significant gender effect on poverty. Then, there is a significant effect of education and gender simultaneously on poverty in Madura. The magnitude of effect is 94,67%.*

**Keywords:** *Education, Gender, Poverty, Madura Island*

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### INTRODUCTION

In Madura Island became part of East Java Province, Indonesia, experiencing that unfavorable conditions. The pace of economic growth is slow and per capita income lags behind. This is evidenced by the data of Central Bank of Indonesia in 2014 on the level of welfare of East Java shows the highest poverty mostly located in the northern region of East Java and Madura Island which starts from Sampang District, Bangkalan District, Probolinggo District, Sumenep District and Pamekasan District are the five poorest regions in East Java. Various possibilities can indicate high poverty rates in these districts because of their economic, low income and lack of access to social facilities provided by the government or the private sector.

According to Mihai (2015) there are many causes of poverty. But, we can think of education as an element of risk that will reduce high poverty, which can prevent the occurrence of other generations much poorer. Education is one of the most important factors in breaking the vicious cycle of inter-generational poverty transmission. However, the phenomenon that occurs is that most population in Madura do not have a

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primary school certificate. Sampang District is the district with the highest number of population with no certificate of primary school amount 41.31%, then Sumenep District occupies the second position amount 37.92%, Bangkalan District as the third position amount 32.42% and the last Pamekasan District amount 28,57%.

In addition to education, women actually play an important role in the development process. In fact, however, shows that women are globally poorer than men. Women have less access to health, education and various forms of freedom. In addition, women have primary responsibility for parenting and the resources they have to assume that responsibility will determine whether or not they break the cycle of inheritance of poverty from one generation to the next. Therefore, in order to generate significant development impacts, a society must empower and invest resources for women. Widespread poverty reduction and higher levels of inequality are at the core of all development issues. However, keep in mind that even more equally important inequality issues are even more crucial are issues of power imbalance, status, prestige and gender (Todaro, 2011).

Based on Diaz's research (2010) proposed that school returns should not be regarded as a single number - usually the school coefficient in income equations - but as a set of elements whose length depends on the number of identified poverty dimensions. He also found interesting differences by sex and urban-rural locations. He found that family head education positively affected family health and housing conditions.

Lelkels's research (2010) shows that for most countries, labor market factors (employment status and work intensity) and education are more important in explaining inequality than age structure or households. The income difference between education groups accounts for the largest share of total inequality in the countries of Southern Europe. Based on the above description of the relationship of education and poverty is very tightly because education is a human capital that will increase productivity. If productivity increases, income will also increase and they will be able to satisfy their basic needs.

Todaro (2011) describes the concept of women and poverty. The majority of the world's poor are women. They are most likely poor and insufficient nutrients and less likely to get health care, clean water, good sanitation and other benefits. The number of female headed households, lower female income capacity and limited control of spouses earnings all contribute to the symptoms of poverty. In addition, women have fewer access to education, formal sector employment, social security and employment creation programs. The combination of these facts causes women's financial resources to be smaller and less volatile compared to men's financial resources.

The differentiation of roles, positions and responsibilities between men and women can be measured using GDI (Gender Development Index). According to BPS (Central Bureau of Statistics) of East Java, data shows that the Gender Development Index (GDI) in each District in Madura Island is low and the value is far below the East Java Gender Development Index (GDI) average. This means that the four districts of Madura are all experiencing gender inequality between men and women.

There is no prosperous and happy society, if most people in that society are in poverty and suffering (Smith, 1776). Most of the people living in the poverty line occur not only because of the lack of educational factors that lead to low human capital, but also because of gender inequality so as to reduce the level of productivity. Thus, based

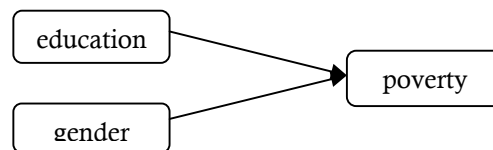


on these problems, this study aims to analyze the effect of education and gender on poverty.

## METHODS

This study used a quantitative approach with the type of associative research. In this research, there are two independent variables are education (X1) and gender (X2). Then, poverty (Y) is a dependent variable. Here is a research design:

**Figure 1. Research Design**



Population of this research is Madura Island namely Bangkalan, Sampang, Pamekasan Sumenep. The data collection technique by purposive sampling are data of education, gender and poverty from five years in the four districts. The type of data is secondary data obtained from the Central Bureau of Statistics (BPS).

Data analysis technique used in this research is panel data regression by using Eviews application. To measure education (X1) that is with percentage of educational level of high school graduates. To measure gender (X2) that is with gender development index. Then, to measure poverty by percentage of poverty level.

## RESULT AND DISCUSSION

### Condition of Education in Madura

The average level of recent education of high school graduates in Bangkalan District increased except in 2015 decreased. By 2015, the last education level of high school graduates in Bangkalan District is 7.58%, down from the previous year (2014) at 9.05%.

The last education level of high school graduates in Sampang District is 7.68 percent in 2016. The number has increased compared to the previous year which is 5.85 percent. However, when compared with the other three districts in Madura, the last education level of high school graduates in Sampang District is the lowest. Nevertheless, the average level of recent education of high school graduates in Sampang District has increased in the last five years.

The last level of education for high school graduates in Pamekasan District was 15.41 percent in 2016. This amount increased compared to the previous year which was 12.04 percent. When compared to the other three districts in Madura, the last level of education in high school in Pamekasan is the highest.

The last education level of high school graduates in Sumenep District in 2016 amounted to 13.72 percent. The number has increased compared to the previous year



which amounted to 10.03 percent. The average of the last level of high school education in Sumenep District increased except in 2015 decreased. The last education level of high school graduates in Sumenep District decreased from 10.98% in 2014 to 10.3% in 2015.

### **Condition of Gender in Madura**

The average level The average Gender Development Index (GDI) in Kabupaten Bangkalan has increased in the last five years. When compared to the other three districts in Madura, the Gender Development Index (GDI) of Bangkalan District is the highest, meaning that the gender inequality level between men and women in Bangkalan District is the lowest in Madura Island.

The Gender Development Index (GDI) in Sampang District was 83.75 percent in 2016. This amount increased compared to the previous year which was 82.96 percent. The average Gender Development Index (GDI) in Sampang District has increased in the last five years, from 2012 to 2016.

Gender Development Index (GDI) in Pamekasan District in 2016 was 87.51 percent. This amount has increased compared to the previous year which amounted to 85.26 percent. The average Gender Development Index (GDI) in Pamekasan District has increased in the last five years, from 2012 to 2016.

The Gender Development Index (GDI) in Sumenep District amounted to 84.23 percent in 2016. This amount has increased compared to the previous year which was 78.70 percent. The average Gender Development Index (GDI) in Sumenep District has increased in the past five years (2012-2016). When compared to the other three districts in Madura, the Sumenep District Gender Development Index (GDI) is the lowest, which means that the level of gender inequality between men and women in Sumenep District is the highest on Madura Island.

### **Condition of Poverty in Madura**

The poverty condition in Bangkalan District in the last five years (2012-2016) is that the average has decreased. Only in 2015 there was an increase in the poverty rate from the previous year (2014) which was 22.38% to 22.57%.

The number of people who are below the poverty line in Sampang District reached 24.11 percent in 2016. This number decreased compared to the previous year which reached 25.69 percent. The average poverty rate in Sampang in the last five years (2012-2016) has continued to decrease. Sampang District has the highest number of poor people in Madura.

The number of people living below the poverty line in Pamekasan District is 16.70 percent in 2016. The number is down compared to the previous year which reached 17.41 percent. The condition of poverty level in Pamekasan District in the last five years, namely 2012 to 2016 experienced a decrease. Pamekasan has the least number of poor people on Madura Island.

The number of people below the poverty line in Sumenep District is 20.09 percent in 2016. This amount is slightly decreased compared to the previous year which is 20.20 percent. The condition of poverty level in Sumenep District in the last five years is 2012 to 2016 experienced a decrease.



**Research Test Results**

After performing panel data regression and model selection testing, the fixed effect model is chosen to interpret the hypothesis test. Based on the results of the model specification testing, the fixed effect model is better than the common effect model and random effect. The following results from the t-Test using the Eviews 8 application are presented in the following table:

**Table 1. Results of t-Test**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	28.75131	5.984596	4.804219	0.0003
X1	-1.112607	0.077817	-14.29766	0.0000
X2	0.045535	0.072629	0.626958	0.5415

*Source : data processed by researchers*

Based on the results of the t-test for education variables on poverty obtained a significance value of  $0.00 < 0.05$ . That is, there is a significant influence of education variables partially on poverty in Madura. For gender variables on poverty obtained a significance value of  $0.54 > 0.05$ . So, there is no significant effect of gender variables (X2) partially on poverty in Madura. Then, here are the results of the F Test using the Eviews 8 application:

**Table 2. Results of F Test**

R-squared	0.946687	Mean dependent var	21.94450
Adjusted R-squared	0.922082	S.D. dependent var	3.231026
S.E. of regression	0.901905	Akaike info criterion	2.900601
Sum squared resid	10.57462	Schwarz criterion	3.249108
Log likelihood	-22.00601	Hannan-Quinn criter.	2.968634
F-statistic	38.47411	Durbin-Watson stat	1.674493
Prob(F-statistic)	0.000000		

*Source : data processed by researchers*

Based on the results of the Test F that has been presented for education and gender against poverty, the significance value of  $0.0000000 < 0.05$ . So, there is a significant effect of education and gender simultaneously on poverty in Madura.

The R square value is 0.946687. This means that 94.67% of poverty in Madura is influenced by both independent variables of education and gender. While the rest of 5.33% influenced by other factors not explained in the equation model of this study.



### **The Effect of Education to Poverty**

Based on the test in this study showed that there is a significant effect of education on poverty in Madura. The relation of educational influence to poverty in Madura during the five years observation period is negatively significant. So that if education increases it will reduce poverty. This is in line with Lelkels (2010) study which shows that for most in Southern European countries, education is an important factor affecting poverty and income inequality.

Furthermore, for the result of panel data regression equation from education variable to poverty is negative 1,11. These results indicate that if education rises by 1% assuming all other variables are considered constant (*ceteris paribus*) then poverty will decrease by 1.11%. This significant negative influence of the education on poverty variable is in line with MacDougall's (2013) study which also states that if Kenya's focus on access and basic education is established properly, it can be a means to reduce poverty.

The first finding obtained from the results of this study is that the average level of education in each district in Madura has increased every year. However, despite increasing every year, Sampang District has a low level of education growth compared to the other three districts in Madura. This means that there are still many residents in Sampang District who have not received education up to high school. While Pamekasan District is the district with the highest education level in Madura. This is consistent with the conditions of poverty that occurred in Madura during the observation period that Sampang District, which had the highest number of poor people compared to the other three districts in Madura and Pamekasan District, had the smallest number of poor people in Madura. Thus, education can be said to affect poverty in Madura.

The second finding obtained from the results of this study is that the average population in Madura does not have an elementary diploma. Sampang District is a district with the highest number of elementary school graduates with a number of 41.31%, then Sumenep District occupies the second position with a total of 37.92%, Bangkalan District as the third position with 32.42% and the last Pamekasan District with 28,57%. So it can be said that most of the population in Madura have not received education. Even though the government has launched a nine-year compulsory education program. However, the nine-year compulsory education program launched by the government with the aim of equalizing access to education seems to have not been fully successful in Madura. This is because the nine-year compulsory education program does not completely free students from the cost of education. There are still school levies for the contribution of school construction, purchase of stationery and textbooks, uniform purchases and there are still fees for school tutoring or courses attended by students. This is burdensome for parents in Madura to send their children to school, so they prefer to work rather than go to school.

The third finding obtained from the results of this study is that residents in Madura who do not receive formal education, they will find it difficult to get jobs in the formal sector. Most of them work by utilizing the existing natural conditions by cultivating land and rice fields and become fishermen considering Madura is an area close to the beach and sea. However, for those who do not have land to work or for those who do not live near shore and sea, they will work in the informal sector such as tailors, batikers, shop assistants, household assistants, or open their own businesses. For those





who work hard it is not impossible to achieve success despite not working in the formal sector. Some batik businesses and food stalls in Madura have succeeded in increasing income. Seeing these conditions, it can be said that if not have a college education but have persistence for entrepreneur then it is not impossible to reduce poverty that exists.

Based on the results of this study supported by existing theories, it can be concluded that there is the effect of education variables on poverty in Madura.

### **The Effect of Gender to Poverty**

Based on the test in this research, it is found that there is no gender influence to poverty in Madura. Gender has no significant effect on poverty in Madura during the five year observation period. The results of the data in this study obtained the significance value for the gender variable to poverty is equal to  $0.54 > 0.05$ . Furthermore, for the result of panel data regression equation from gender variable to poverty equal to 0,04. This result is in line with Aktaria research (2012) which shows no significant influence between gender imbalance and poverty in 14 districts / cities in Central Kalimantan Province. Furthermore, the study conducted by Mustika (2013) also found that gender has no significant effect on poverty level in West Sumatera Province.

The first finding obtained from the results of this study is that Sumenep District is the region with the lowest Gender Development Index in Madura compared to the other three districts. That is, there are still gender inequalities, namely the differentiation of roles and powers between women and men. However, the poverty rate of Sumenep District is not the largest of the three other districts. Then, for the highest Gender Development Index in Madura is Bangkalan District.

That is, gender inequality namely the differentiation of roles and power between women and men is very small. However, the poverty rate of Bangkalan District is ranked second in Madura. When linked to existing theories and thinking framework, if gender as measured by the Gender Development Index increases, it will reduce poverty, and vice versa. However, the conditions are inversely proportional, even though a high gender development index is not necessarily low in poverty, and vice versa, even though a low gender development index is not necessarily a high level of poverty. So it can be said there is no gender influence on poverty in Madura.

The second findings obtained from the results of this study is the culture in Madura who still hold firm religious values and their beliefs where to earn a living is the role of a husband (male) and a wife (women) at home caused the limitation of rights and role. Although women are not given the same opportunities as men to work, but the head of the family in Madura is still dominated by men who have jobs so they will still be able to live prosperous. Even though women in Madura are not given the opportunity to work outside, they have rice fields, fields and gardens or livestock to manage which causes gender to have no effect on poverty. Although their husbands do not allow them to work outside, they do have skills such as sewing and making batik. So even though the women are at home but they also contribute positively and produce for the family economy.

Based on the description of research results and supported by existing theories, it can be concluded that there is no gender influence on poverty in Madura.



## CONCLUSION

Based on the results of the study, the conclusions that can be drawn from this study is there is an effect of education on poverty in Madura. The influence of education on poverty is negatively significant. So, the higher education will reduce poverty. And then, there is no significant influence on gender in poverty in Madura. A high gender development index is not necessarily a low level of poverty, and vice versa, even though a low gender development index is not necessarily a high level of poverty.

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