How Important Gender Inequality in Education on Poverty Reduction? Indonesian Case

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Abstract---Gender inequality is considered as an important issue in development that can affect poverty alleviation. The gap reduction between men and women in education would affect a number of development goals. This study attempt to reveal impact of gender inequality in education on poverty in Indonesia. This research used Ordinary Least Square (OLS) model to get degree of gender inequality in education. With data from Badan Pusat Statistik (BPS) between 2010–2018, we used several parameter like the number of poor people, the number of gender inequality in education, inflation rate, unemployment rate and opennes. The results shown that increasing education level for women would give strong impact on poverty reduction in Indonesia.

Keywords---Gender Equality, Education, Poverty Reduction, Indonesia

I. INTRODUCTION

Increase in education condition will provide better economic opportunities (Omoniyi, 2013). Education provide positive externalities like overcome economic problems and generate permanent economic growth (van Den Berg, 2001; de la Fuente, 2006). Education also allow poor people to escape from poverty(Hanim, 2016). Everyone has equal right in education, for men and women. This issue is considered as an important paradigm in development and has an impact on poverty alleviation and others development goals (Chaudhry & Rahman, 2009).

Educated women not only give benefit for themselves, but also for the next generation. Educated women will increase the survival rate of babies and nutrition directly through better quality care. This will encourage a decrease in infant and under-five mortality (USAID, 2006). Besides that women with higher education provide opportunities to get jobs with better wages, thereby increasing household welfare and reducing poverty.

Based on Fig. 1., Indonesian women has a lower number of mean years schooling than men. Gender inequality in education still occurs in Indonesia. In 2006, Indonesia has ranked 81 from 115 countries for gender inequality in education. In 2018, Indonesia rank became 115 of 149 countries (WEF, 2018). Discrimination based on gender, especially in education, will reduce human capital and resulting lower economic growth and increasing number of poor people (Mikkola, 2005).

Some previous studies like Chaudhry & Rahman (2009) and Rahman et. al. (2018) showed that gap reduction between men and women in education has positive impact on poverty reduction. This article aims to examine the impact of gap reduction in education for men and women on poverty in Indonesia. This paper using mean years schooling as indicator of gender inequality in education.
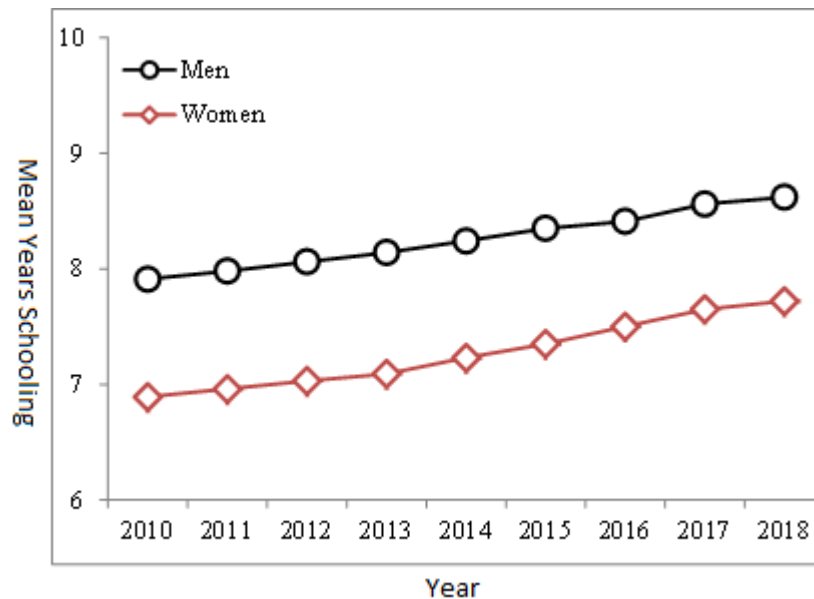
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Figure. 1:*Mean years schooling based on gender. Source: (BPS, 2018b)*

II. GENDER INEQUALITY IN INDONESIA

Gender can be interpreted as a role formed by the community and behavior that is embedded through the process of socialization that is related to the sexes. Gender can be defined as roles in socially construction and behaviors that are embedded through socialization processes associated with manand women. The Differences in interpreting the biological but cultural differences into a set of social demands of decency in behavior, and in turn the rights, resources and power. Despite these varied demands in every society, but there is a striking resemblance, for example, almost all groups of people handed over responsibility for child care for women, and gave authority to the military for men (World Bank, 2001).

Basically, the component of gender inequality covering 3 aspects that related to each other. The aspects are capability, access to resources, and opportunity. Capability defined as basic human abilities with parameter like education, health and nutrition. Capability become the most important aspect than two others. Access to resources and opportunities defined as ability to access economic assets such as land and houses as well as other resources (Hanim, 2011).

Promoting gender equality is in line with the SDGs (Sustainable Development Goals) that promote by UN and become adopted by many countries. The Sustainable Development Goals (SDGs) have 17 global objectives and can be universally applied. One of objectives of the SDGs is to reach gender equality and empowering for women and girls. Gender equality is created to eliminate discrimination to women and girls. Empowering women and girls has a huge impact for drive economic growth and development.

Nationally, Gender Development Index (GDI) Indonesia continued to increase in the last 5 years and reached 71.74 in 2017. This figure increased 1.32 points compared to 2016. In Education aspect at 2013 Ratio of women to men in mean years schooling is 85,19, in 2017 increased to 89,37. In 2017, women and men have the opportunity to receive education for approximately 12 years or up to 12th grade in high school / equivalent. Over the past eight years, women have hopes of going to school that are slightly higher than men. The expected length of school for girls is 12.93 years, 0.15 years longer than that men at the level of 12.78 years. In terms of the average length of school, men have been able to get an education for 8.56 years or up to grade 8 middle school while women are one year below which is 7.65 years. Inequality between men and women is evident in economic terms. In this field, women are very behind compared to men. In 2017, the average per capita expenditure of women is Rp. 8.75 million per year. This figure is far below the per capita expenditure of men which reaches Rp. 14.93 million per year (BPS, 2018a).

III. RELATIONSHIP BETWEEN GENDER INEQUALITY IN EDUCATION AND POVERTY

Theoretically, gender as a derivative (breakdown) of human capital have been developed in an expanded Solow model (Solow Augmented Model), known as endogeneous theory that asserts that human capital will ensure long-

term economic growth (Hanim, 2011). Gender inequality is complex in terms of its causes and consequences, both are social, cultural and economic (Cavalcanti & Tavares, 2008). Gender inequalities in access to resources raises the cost for the entire community, not only women. Gender inequality is one of important topics for development in many countries, especially in developing and underdeveloped countries.

Education is one of an aspects to measure gender inequality. Promotion for gender equality in education is very important in achieving development goals (Dauda, 2013). Lower gender inequality in education means higher educational attainment of women. It will increase employment opportunities of women that would increase household income thus increasing the satisfaction of basic needs and improve living standards. Increasing women's education have an indirect effect of helping to fulfill basic needs like decent water and sanitation, health care utilization and housing etc. (Jeffrey & Basu, 1996).

Education in one of investment in human capital that has a huge impact to improve the ability of individuals, whether men or women, to give contribution in society (World Bank, 2012). Individuals with a higher level of education tend to increase access to available jobs. Otherwise, individuals with lower levels of education and skills are less likely to find work (Majumder & Biswas, 2017). Therefore education as determining factor for poverty reduction gives a lot of attention in recent years (Awan, Iqbal, & Muhammad, 2011).

Investation in education for women has three benefit for women and society. First, educated women pass on their knowledge to their children. Children with more educated mothers are less likely to die in infancy and more likely to have higher birth weights and be immunized. Second, women face less risk during pregnancy and childbirth, these are maternal mortality rate and morbidity rate. Third, to normalize ratio of men and women in society with increasing the number of women. If more boys than girls are born, eventually many men will be unable to find wives (World Bank, 2012). Therefore educated women have an important role in the development, in turn of will provide external influences not only for woman themself, but also for the family and for a wider scope.

Some of the external benefits is provided by educated women. First, educated woman will contribute directly in improving the capacity of a country's economy, because educated women tend to be involved in the labor market. In turn will increase the family income, means an increase in welfare or poverty reduction. Second, educated women will encourage their children to achieve higher education that will enhance human capital for the next generation. Third, educated woman who can take the best decision for themselves which can determine the number of born children, may decide to choose between child quantity and quality of children, so that educated women have a tendency to fewer number of children. The decision will have an impact on the increase in per capita income and increasing family and social welfare as a whole. Contribution of women in deciding the number of born children with a number of closely related family members, the greater number of members of the higher probability of poverty (Chaudhry & Rahman, 2009). Klasen (2003) state thatpromoting woman education would reduce fertility levels and reduce child mortality levels.

Gender inequality in education has strong impact on economic growth. It also has indirect impact like poverty alleviation. Therefore reduce gender disparity in education is an important strategy to achieve development goals from promoting economic growth and reducing poverty rate.

For example in Pakistan, Chaudhry and Rahman (2009) found that gender inequality in education has significant impact on rural poverty. In their research, they used ratio between men and women in enrollment, literacy, total years of schooling, education of household, earners, age of household head, holding assets, and land holdings.

Rahman et. al. (2018) analyze the impact of gender inequality in education on rural poverty in Pakistan. Their main finding are enrolment ratios negatively affect the probability of household poverty. Households with higher gender inequality in education tend to be poorer than households with lower gender inequality.

IV. METHODOLOGY

This research used data from Badan Pusat Statistik (BPS) between 2010–2018. The information that used in this research is men years schooling, women years schooling, export, import, GDP, unemployment rate, inflation rate and others. GDP is measured in 2010 prices. To measure gender inequality in education, we used ratio between women mean years schooling to men mean years schooling.

The analysis of the impact of gender inequality on poverty is used multiple regression.The model as follow:

$$\text{Ln POV}_t = \beta_0 + \beta_1 \text{GED}_t + \beta_2 \text{UNEMP}_t + \beta_3 \text{INF}_{t-1} + \beta_4 \text{Opennes} + u_t$$

Note:

β_0 Constant

$\beta_1 - \beta_4$	Regression Coefficient
u_t	*Stochastic Disturbance*
POV_t	Poverty Rate at year t
INF_{t-1}	Inflation Rate at year t-1
$Opennes_t$	Ratio of Export Pus Import to GDP at year t
$UNEMP_t$	Unemployment rate at year t
GED_t	Female-male ratio in mean years schooling(MYS) atyear t

Specific models used are classic assumption tests including multicollinearity, autocorrelation and heteroscedasticity. Multicollinearity test used VIF test, Autocorrelation Test used Durbin Watson and Run Test and Hetersoskedastic Test used Glejser methode.

V. ECONOMETRIC ANALYSIS AND DISCUSSION

We used Ordinary Least Square (OLS) to analyze the impact of gender inequality in education. Some independent variables are share of agricultural sector to GDP (AGR) was excluded from the model, the third regression independent variable share of agricultural sector to GDP (IND) was excluded from the model. Base on Data Processed SPSS 17, the result of the regression as follow.

LNPOV = 19.379 - 2.651 GED + 0.056 UNEMP + 0.003INF$_{t-1}$ - 0.526 Opennes

t-Statistic **49.565*** **-6,751*** **12.501*** **2.115*** **-6.065***

Number Of Observation:11

R^2 : 0.990

F – hit :198.901**
       *

Note: ***: Significant 1%, **: Significant 5% and *: Significant at 10 *

All classical assumption tests have been carried out to determine the extent to which the validity of the regression model is compiled. The result shown that the formulated regression model meets the model specifications. a series of classic assumption tests have been carried out resulting in that, there is no correlation between independent variables, heteroscedatic does not occur and there is also no autocorrelation. So that the formulated model has good predictive abilities.

Based on the estimation results, all the coefficients of independent variables are UNEMPt, INFt-1, Opennes and GED in the equation obtained significant coefficients. Gender equality in education has a significant negative effect, thats mean the higher levels of female education will reduce the level of poverty rate. The results of this study are consistent with previous researchers like Morrison et. al. (2007) and Chaudhry and Rahman (2009). The conclution of their study showed that gender inequality in education has an bad impact on rural poverty. It also meet with Birdsall et. al. (2005) conclusion.

VI. CONCLUDING REMARKS

This study shows that equality between women and men in educational attainment is needed to increase employment rates. Improvement in women's education is one of the efforts to increase the quality of human resources. Increasing female education not only will increase the labor force participation of women but also will increase quality of next generation. Increasing woman labor force participation increase the family income will further improve the welfare of societySo the promotion of gender equality in education will provide a dual effect in development. Not only improve the well-being of women but will increase the quality of human resources for next generation, declining birth rates and also will reduce poverty rate.

Therefore development policy which aims to improve education of women should be a priority in development. The programs associated with increased empowerment of women needs to be increased, because the quality of human resources in future generations depends on the quality of human resources of women today. Besides, the proportion of women who are more than 50% of the population, then the quality of Indonesian human resources as a whole is strongly impact of the quality of human resources of women. Associated with poverty reduction programs, improving the quality of human resources of women, especially in the field of education believed to be one of effective poverty reduction strategies to be implemented in Indonesia.

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