An Evaluation of Regional Development in Gender Perspective: Study in East Java Regional Development Process

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Abstract—This paper aims to: Evaluation of Human Development Index (HDI) of men and Human Development Index (HDI) of women. Evaluation of achievement of Gender Development Index (GDI) and Gender Empowerment Measure (GEM) in each district/cities in East Java. And analyze the variables that affect the achievement of HDI and GDI in East Java. This study yields the following findings: (i) East Java's development based on a gender perspective indicates that the quality of men resources is better than the quality of women's human resources; (ii) all women's HDI achievement in all districts/cities in East Java is lower than that of man's HDI; (iii) of the four components of the HDI is only one component that shows women better than men, the component of Life Expectancy; (iv) areas with the lowest human development gap between men and women are Blitar City with GDI is 98.08; (v) the most successful areas in women's empowerment are Surabaya with GEM is 82.15; (vi) the main variables affecting both men's HDI and women's HDI in districts/cities in East Java are variables of poverty and variables of per capita income.

Keywords—Gender, development process

I. INTRODUCTION

In September 2015, United Nation (UN) launched a sustainable development program called "Sustainable Development Goals" (SDGs) to replace the previous Millennium Development Goals (MDGs) program. SDGs has 17 programs that apply to developed and developing countries, including Indonesia. SDGs are planned for the next 15 years or often known as Agenda 2030.

In the SDGs, gender issues are included in the development agenda of the five objectives. The gender development objectives to be achieved are to achieve gender equality and empower women and girls, with several targets to be achieved, including: (1) End all forms of discrimination against women and children women everywhere; (2) Ensuring the full and effective participation of women, and equal opportunities for leadership at all levels of decision-making in political, economic and public life; (3) Ensuring universal access to sexual and reproductive health, and reproductive rights; (4) Reforms to give women equal rights to economic resources, access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national law; (5) Increasing the use of adequate technology, especially information and communication technologies to promote women's empowerment (UNDP, 2015).

To evaluate the extent to which development processes undertaken in each country and region reflect equality and empowerment of women or not, it can be analyzed from data of gender-based development outcomes. Indicators that demonstrate the achievements of gender-based development will provide a clear picture of gender mainstreaming in Indonesia. The issue of gender equality in Indonesia is contained in the vision of long-term national development 2005-2025, to create an independent, progressive, just and prosperous Indonesia. Fair means no restrictions/gender. The elimination of gender discrimination in all fields then becomes an issue that continues to be discussed as a development target.

Departing from the strength of gender strategic issues in both global and national issues, this article will conduct an evaluation analysis of the implementation process of development by taking the case of East Java Province. For this purpose, several data analysis processes are needed: (1) Evaluation of Men and Human Development Index and Human Development Index of women. (2) Evaluation of achievement of Gender Development Index (GDI) and Gender Empowerment Measure (GEM) in each district/cities in East Java. (3) Analysis of variables that affect the achievement of Men's HDI, Woman's HDI as well as, and GDI in East Java.

II. LITERATURE REVIEW

The Concept of Gender and Gender Equality

The concept of gender was empirically developed first by Margaret Mead, an American anthropologist. Mead researched primitive societies in Papua New Guinea in 1932. The conclusions of Mead's research show that the differences in personality and behavior between men and women are not universal, but determined by the culture, history, and social structure of a particular society. Although at that time, it has not used the term "gender," but Mead's research results are considered to be the first study...
to question gender [3]. While the term gender was first introduced by [2] who called the personal stance based on sociocultural factors, not physical-biological.

Associated with the concept of gender and gender, the English sociologist named Ann Oakley was first to distinguish between the concept of gender and gender in 1972 [4]. According to Oakley, sex refers to differences on the basis of biological characteristics, while gender is a symbolic or social difference that stems from gender differences. So gender is defined as the social construction or attributes imposed on humans built by culture. This distinction becomes so important that the natural human concept refers to sex, whereas the non-natural distinction of humans refers to the concept of gender.

From some of the literature and definitions put forward, it can be concluded that gender refers to differences in the roles, behavior, functions, and status of men and women as a result of social and cultural constructions. This concept is then socialized from generation to generation. Thus gender is the result of the human agreement and not natural. Gender can change depending on the time and culture of the region.

Related to the concept of gender, not apart from the concept of gender equality and justice. The purpose of reconstructing the concept of gender is to realize gender equality and justice. According to [5], gender equality is a common condition for men and women to get their opportunities and rights as human beings. The aim is to participate in political, economic, socio-cultural, defense, and national security activities and equality in enjoying the results of the development. Similarly, [6], that gender equality is a condition of women and men to enjoy equal status and have the same conditions to fully realize their human rights and potential for development in all spheres of life. It can be concluded that gender equality is a right that should be obtained in order for both men and women to have equal opportunity to participate in the field of life.

Meanwhile, [7] defines gender equality as a common condition between men and women in achieving basic rights within the family, community, country, and the international world. While [6] defines gender as a fair condition for women and men through cultural and policy processes that remove the role barriers for women and men. From both definitions, it can be concluded that gender equality is a right that should be obtained in order for both men and women to have equal opportunity to participate in the sphere of life. Thus, the realization of gender equality and justice is characterized by the absence of discrimination between women and men. Both have equal rights in having access, opportunity to participate, and control over development. In the end, men and women will benefit equally and fairly from the development.

**Gender Development Indicators**

Measurement of gender development in Indonesia began when the United Nations Development Program (UNDP) released its report on Human Development Report (HDR) in 1990 which included the Human Development Index (HDI) as a measure of the progress of a country (BPS, 2015b). Five years later, UNDP added the concept of HDI with gender equality (Gender Equality). Since UNDP has incorporated gender equality in HDR, gender equality is always included in evaluating the development success of each country.

The gender equivalence sizes compiled by UNDP since 1995 are the Gender Development Index (GDI) and the Gender Empowerment Measure (GEM). These measures are based on the concept of equality. GDI calculations include equality between men and women in terms of health, education, and income outcomes. While GEM measures equality in political participation and empowerment in the socio-economic sector. In Indonesia, the GDI or Gender Development Index (GDI) and the GEM or Gender Empowerment Index (IDG) have been calculated by the BPS of Indonesia since 2009 in cooperation with the Ministry of Women Empowerment and Child Protection (KPPPA).

In 2010, UNDP made changes to the GDI measurement methodology accompanied by the calculation of men and women GDI. Adjusting this change, in 2015, Indonesia released its new IPG method with data backcasting until 2010. Meanwhile, IDG's calculation method has not changed until now, although, since 2010, UNDP has eliminated GEM in its annual publication (HDR). At the same time, UNDP publishes the Gender Inequality Index (GII) as one of the most appropriate measures to describe empowerment and prosperity between men and women.

To evaluate the extent to which a gender inequality picture needs an indicator. The composite index is generally selected as a measure that aggregates various multi-dimensional indicators. Several international institutions have conducted various index measurements with different versions and approaches. The World Economic Forum (WEF) prepares the Global Gender Gap Index (GGGI), the Organization for Economic Co-operation and Development (OECD) Development Center has Social Institutions and Gender Index (SIGI), Social Watch compiles the Gender Equity Index (GEI). The European Institute for Gender Equality (EIGE) has a European Union-Gender Equity Index (EU-GEI).

In Indonesia, the measurement of gender equality refers to UNDP. UNDP has GDI and GEM which has been compiled since 1995. The background of GDI compilation is the weakness of HDI that only describes the average achievement of the entire population, regardless of the gap between population groups, including gender. GDI was later revised in 2010 with new measurement methods due to various conceptual problems, methodology, and data availability, including the problem of income components [8].

**III. METHOD**

In this study, the size of gender inequality refers to the Gender Inequality Index (GII). The reasons are: (a) The results of the 2015 UNDP study indicate that all of the existing measures refer to one fairly identical result; (b) In terms of simplicity of measurement, GII uses a small number of component indicators. This is in accordance with the opinion of Bossel (1999), which states that the number of indicators in a composite index should be as minimal as possible but not minimize its urgency. The indicators used should be comprehensive, concise, and relevant to the issues being assessed. (c) During this time, BPS uses GDI and GEM in measuring the achievements of human
development. Thus, UNDP became a reference in the measurement of other human development indicators.

To evaluate the results of gender-based development outcomes in each district/city in East Java Province, a descriptive statistic analysis tool was used, using data from the Human Development Index (HDI) and the Human Development Index (HDI) of men and women, Gender Development Index (GDI) and Gender Empowerment Measure (GEM) in each district/city in East Java.

Meanwhile, to analyze the variables that affect the achievement of HDI and GDI in East Java, used econometric analysis with several regression models as follows:

Model 1: \[ HDIL = a + \beta_1PPDRB + \beta_2PPM + \beta_3LPDRBK + e \]

\[ HDIL = \text{Men's Human Development Index} \]

\[ PPDRB = \text{Growth PDRB} \]

\[ PPM = \text{Percentage of the Poor} \]

\[ LPDRBK = \text{PDRB per capita} \]

Model 2: \[ HDIP = a + \beta_1PPDRB + \beta_2PPM + \beta_3LPDRBK + e \]

\[ HDIP = \text{Women's Human Development Index} \]

\[ PPDRB = \text{Growth PDRB} \]

\[ PPM = \text{Percentage of the Poor} \]

\[ LPDRBK = \text{PDRB per capita} \]

Model 3: \[ GDI = a + \beta_1PPDRB + \beta_2PPM + \beta_3LPDRBK + \beta_4LWPKS + \beta_5LWRSE + e \]

\[ GDI = \text{Gender Development Index} \]

\[ PPDRB = \text{Growth PDRB} \]

\[ PPM = \text{Percentage of the Poor} \]

\[ LPDRBK = \text{PDRB per capita} \]

\[ LWPKS = \text{Woman Leader of Social Welfare} \]

\[ LWRSE = \text{Women Prone to Socio-Economic} \]

IV. RESULT AND DISCUSSION

In evaluating the process of gender-based regional development in East Java, it will be analyzed from several aspects including: (i) comparison of male and female HDI achievement; (ii) achievement of gender roles in development seen from GDI and GEM; and (iii) analysis of variables that have an effect on the achievement of HDI (men and women) and GDI.

**Men's and Women's HDI**

HDI is an important indicator for measuring success in building the quality of human life (community/population). HDI explains how people can access development outcomes in obtaining income, health, education, and so on. To find out the description of the quality of life of the human being based on gender, hence the calculation of HDI differentiated based on gender, that is men's HDI and women's HDI. Here is a picture of the quality of human life of East Java residents based on gender seen from the achievements of Men's HDI and Women's HDI.

![Figure 1. Men's HDI dan Women's HDI East Java](image)

**Figure 1. Men's HDI dan Women's HDI East Java**

Although both men's and women's HDI in East Java in 2106 to 2017 are growing, from the perspective of gender, in the last two years the quality of male resource quality is better than the quality of women's human resources. This is seen from the achievement of men's HDI is 74.77 while the women's HDI was only 67.86 in 2017.

The condition of gender quality inequality of human resources is not only happening in East Java Province as a whole but also occur in all regencies/cities in East Java Province. Below is a description of the gender quality of human resource in each district/city in East Java. The figure shows that all women's HDI achievement in all districts/cities in East Java is lower than that of men's HDI.

![Figure 2. Capture of Men's HDI and Women's HDI of Districts/Cities in East Java](image)

**Figure 2. Capture of Men's HDI and Women's HDI of Districts/Cities in East Java**

Source: BPS East Java, processed
The highest achievement of women's HDI is Malang City that is equal to 79.84, while achievement of Men's HDI of Malang city equal to 83.94. While the highest achievement of men's HDI is Madiun City that is equal to 83.89, while the achievement of women's HDI of Madiun District equal to 78.83. Achievement of HDI of woman and men lowest is Sampang District that is equal to 55.10 for woman's HDI and 65.37 for man.

To find out more whether the cause of the achievement of women's HDI is lower than the achievement of men's HDI in East Java, it is necessary to analyze every component that builds HDI both men and women. Here are the results of the comparison of the achievement of each component of men's HDI and HDI women.

### Table 1.
Capacity Component of each Component of Men’s HDI and Women’s HDI East Java, 2017

<table>
<thead>
<tr>
<th>No.</th>
<th>Component HDI</th>
<th>Men’s</th>
<th>Women’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Life Expectancy</td>
<td>68.82</td>
<td>72.70</td>
</tr>
<tr>
<td>2</td>
<td>Expected Years of Schooling (EYS)</td>
<td>13.21</td>
<td>13.03</td>
</tr>
<tr>
<td>3</td>
<td>Mean Years of Schooling (MYS)</td>
<td>7.93</td>
<td>6.78</td>
</tr>
<tr>
<td>4</td>
<td>Consumption per capita</td>
<td>15.671.000</td>
<td>9.580.000</td>
</tr>
</tbody>
</table>

Source: BPS East Java, processed

The Table 1. show that from the four components of the HDI is only one component that shows women better than men, the component of Life Expectancy. The Women life expectancy component in East Java is higher than the Men Life Expectancy. Life Expectancy of East Java women is 72.70 years old AHH East Java men is 68.82 years old.

Men's Expected Years of Schooling (EYS) component is 13.21 years old while Expected Years of Schooling (EYS) of women is 13.03. While for the Means Years of Schooling (EYS) male component was 7.93 years, while the Means Years of Schooling (EYS) was 6.78. This data in addition to showing the quality of education quality of East Java women population is lower than men; it also shows the problem gap between educational expectations and the average length of education of the population of East Java.

This phenomenon is indicated by the considerable difference between the EYS and MYS values of both male and female population, where EYS is greater than the MYS value. The figure shows that East Java residents actually have a desire to take education for 13.21 years for men, but the reality can only travel for 7.93 years for men. This condition can be caused by several factors such as unaffordable educational costs, low learning culture, or educational infrastructure that is not available to rural areas, especially for secondary education.

### GDI and GEM analysis

Gender Development Index (GDI) is the ratio between the HDI of women and men. Through GDI can be measured gap or gap of human development between men and women. The closer to 100, the lower the human development gap between men and women. Given the separate size of men's HDI and women's HDI, the interpretation of the quality of life of each gender group can be partial. Here is a description of the achievements of GDI East Java-based on each district/city.

This Figure 3. shows that the region that has the lowest human development gap between men and women is Blitar City with GDI of 98.08. While the region that has the gap of human development of men and women is the highest in East Java is Sumenep District with GDI of 79.71.

Source: BPS East Java, processed

### Figure 3.
Achievement of District/City GDI In East Java Province

Meanwhile, to evaluate the success rate of women empowerment in East Java, the measurement of Gender Empowerment Measure (GEM) of the regions is used. The following will be analyzed GEM achievement of each district/city in East Java.

The Figure 4. shows that the most successful area in women empowerment is Surabaya City area with GEM value equal to 82.15. While the most lagging area in women empowerment is Bangkalan District, which is shown the value of GEM is only 49.75.

### Analysis of Variables Affecting HDI and GDI

To analyze the variables affecting HDI and GDI will use three models of regression equation as follows.

The model used in the first regression is multiple linear regression model of the variable as follows:

$$
GDI = \alpha + \beta_1PPDRB + \beta_2PPM + \beta_3LPDRBK
$$

$$
HDIL = Men’s Human Development Index
$$

$$
PPDRB = Growth PDRB
$$

$$
PPM = Percentage of the Poor
$$

$$
LPDRBK = PDRB per capita
$$
Here are the results of multiple regression obtained from the first model:

\[ \text{HDIL} = 54.97 - 0.13 \text{PPDRB} - 0.57 \text{PPM} + 2.60 \text{PPDRBK} \]

Based on the results of the first model regression, it can be seen that the variables that are very influential on the HDIL are PPDRB and PPM. Poverty has a negative influence on the HDIL, meaning that the higher the percentage of poverty that exist in an area then the HDIL in the area is increasingly decreased. When the poverty rate rises 1 percent, the value of the male HDI will decrease by 0.57 percent.

In addition to the percentage of poverty per capita income also has an influence on the HDIL. The positive correlation here shows that when PDRB per Capita increases, the value of Men’s HDI will also increase. When per capita growth rises by 1% the value of Men’s HDI will rise by 2.60.

GDP growth tends not to have any effect on the increase of Human Development Index. The variables contained in this model can affect the model by 70%.

The model used in the second regression is multiple linear regression model of the variable as follows:

\[ \text{HDIP} = \beta_1 \text{PPDRB} + \beta_2 \text{PPM} + \beta_3 \text{PPDRBK} + \epsilon \]

Here are the results of multiple regression obtained from the second model:

\[ \text{HDIP} = 56.90 - 0.06 \text{PPDRB} - 0.98 \text{PPM} + 2.16 \text{PPDRBK} \]

In this model the Human Development Index of Women made as a dependent variable because it wants to see how big the contribution of these variables to human development, especially against women. Based on the results of the regression done, it can be seen that the variable that is very influential on the Human Development Index of Women (HDIP) is Percentage of Poverty and Income per Capita. Poverty has a negative influence on the Human Development Index of Women, meaning that the higher percentage of poverty that exist in an area then the HDIP in the area is increasingly decreased. At the time of poverty rose by 1% the value of Women’s HDI will decrease by 0.98%.

The per capita income has a significant positive influence on the HDI of Women. When per capita income rose by 1%, the value of Women’s HDI will increase by 2.16%. The variables contained in this model can affect the model by 73%.

The model used in the third regression adds 2 variables related to the female, namely the female social vulnerability variable and the female social welfare leader, following multiple linear regression model with the following variables:

\[ \text{HDIP} = \beta_1 \text{PPDRB} + \beta_2 \text{PPM} + \beta_3 \text{PPDRBK} + \beta_4 \text{LWRSE} + \beta_5 \text{LPWSK} + \epsilon \]

Here are the results of multiple regression obtained from the third model:

\[ \text{HDIP} = 57.25 + 0.04 \text{PPDRB} - 0.93 \text{PPM} + 2.37 \text{PPDRBK} - 0.38 \text{LWRSE} - 0.01 \text{LPWSK} \]

This model uses two additional variables, namely socio-economic vulnerable women and women social welfare leaders. It is assumed that both variables can represent the condition of women who have a negative state and the condition of women who have a positive state. Based on the results of the regression data it is known that the variable of the poor and income per capita still have a significant influence on the Women’s HDI. While the two additional variables of socio-economic women and women social welfare leaders in fact do not affect the condition of development of HDI significantly.

Therefore, it can be estimated that when poverty increases by 1%, the value of Women’s HDI will decrease by 0.93%. Per capita income is positively correlated, when per capita income increases by 1% the value of Women’s
HDI will rise by 2.37. The addition of variables such as Women Prone to Socio-Economic and Women's Social Welfare Leaders has no influence on the conditions of the Human Development Index of Women.

While other variables such as GDP growth also has no effect because it is not significant. It can be interpreted that the condition of women who lead and who collapsed will not affect the gender development that exist in the area of district/city in East Java. The variables contained in this model may affect the model by 78%.

Based on the estimation result from the above three regression models, it can be concluded that the main variables affecting men's HDI and female HDI in districts/cities in East Java are variables of poverty and variables of income per capita. Both of these variables have a significant effect on the rise and fall of male HDI and female HDI.

V. CONCLUSION

Based on the analysis results of gender-based human development and the analysis of the variables affecting the achievement of human resource development in East Java, findings can be summarized as follows: (i) from a gender perspective, in the last two years the quality of men's resources better than the quality of women's human resources; (ii) all women's HDI achievement in all districts / cities in East Java is lower than that of men's HDI; (iii) of the four components of the HDI is only one component that shows women better than men, the component of Life Expectancy; (iv) the areas that have the lowest human development gap between men and women are Blitar City with GDI of 98.08; (v) the most successful areas of women empowerment are the areas of Surabaya with GEM at 82.15; (vi) the main variables affecting both men's HDI and women's HDI in districts / cities in East Java are variables of poverty and variables of per capita income.

REFERENCES