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## Analysis of human development index in East Java Province Indonesia

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**Abstract.** The Human Development Index (HDI) is an indicator of human development level in a region calculated by comparing among living standards, life expectancy, and education level. The achievement of East Java province development has shown the variation of development achievement among regions consisted of 29 regencies and 9 cities. This research used descriptive qualitative. Secondary data, both quantitative and qualitative, were used as data type and source which were from cross section data of Central Bureau of Statistics of East Java Province. HDI in East Java Province in last 5 years showed an increasing trend. Although HDI of East Java was still in the moderate category, but the development was quite good. Moreover, in 2016, the development in East Java was approaching the high category of 69.74. The highest human development achievement was in Malang with HDI in 2016 has reached 80.46 in very high category (> 80) while the lowest achievement of human development was in Sampang Regency with only 59.09 IPM in the low category (<60). Most of regencies and cities have been in "moderate" human development status, and the rests were in the "high" and "very high" categories.

### 1. Introduction

National development is a continuous effort with the aim of improving the welfare and prosperity of the community fairly and equitably. In today's development planning, human development becomes the primary focus for many countries especially Indonesia. The development of the globalization era requires every individual to become a human resource that can compete in facing free market. Therefore, it is necessary a development that focuses on human quality as a resource which is the object of the development.

In 1990, the United Nations Development Program (UNDP) introduced the Human Development Index (HDI). Human development, by the definition of UNDP is the process of expanding people's choices. From many options, there are three options considered most important, namely: longevity and health, educated, and access to resources that can meet a decent living standard. Other options considered to support the above three options are political freedom, human rights, and respect for personal rights [1].

Based on the definition of Human Development Index (HDI) UNDP, we know that human development is a development process that aims to make individuals are able to have more choices, especially in three dimensions, i.e. income (economy), health, and education. Human Development Index (HDI) is used as a measuring tool in viewing the development results of each country and province.

East Java is one of the largest provinces in Indonesia with a population of more than 38 million in 2015. The Human Development Index (HDI) of East Java contributes to the overall HDI of Indonesia. Therefore, the growth rate of East Java HDI becomes an important thing that can be used as one of the benchmarks of HDI Indonesia.

Based on data from BPS (Badan Pusat Statistik) of East Java, a whole achievement of HDI in 2016 East Java that was 69,74. The achievement of East Java Province development showed the variation of development achievement among regions consisting of 29 regencies and 9 cities. The highest human development achievement was in Malang City with HDI in 2016 that has reached 80.46 in very high



category ( $> 80$ ). The lowest achievement of human development was in Sampang Regency with HDI of 59.09 in the low category ( $< 60$ ) (BPS, 2017). Most of regencies and cities have been in "moderate" human development status, and the rests were in the "high" and "very high" categories. Based on these data, it was known that there was a very high rate of development disparity among regions in East Java. The inter-regional development disparity in the long term could have an impact on the social life of the community which directly has affected the quality of East Java community. Therefore, the comparison of human development achievement among regions has become very important as the basis of government evaluation in formulating policies which are then used in order to improve the quality of human resources.

Based on the problems previous, the writers were interested to examine more deeply the factors causing high level of inter-regional HDI disparities in East Java Province seen from the supporting elements that affected the achievement of HDI i.e. income, health and education. The findings are expected to provide information related factors affecting HDI in East Java and the high level of disparity of HDI achievement from the District and City in East Java.

Development is a process of change towards a better direction and is carried out continuously to achieve the goal of realizing a just, competitive, advanced, and prosperous society of Indonesia. In its process, the development must be conceptualized well; so that, each stage can be closer to the goal to be achieved. According Simatupang and Saktyanu, development must be done in an integrated and sustainable manner based on the priority and need of each region with the root and target of national development that have been established through long-term and short-term development [2].

Human is a real wealth asset of a nation and is an important aspect in development and the subject of the development itself. Human development is one of the indicators of creating development that can stimulate economic growth.

To measure the quality of human capital, the United Nations Development Program (UNDP) introduces the concept of human capital quality called Human Development Index (HDI) which is an indicator of the human development level of a region calculated by comparison of life expectancy, education, and living standards. As the information from BPS, human development is the process of expanding society's choice. In principle, human choice is very numerous, and it changes every time [3]. However, at all levels of development, there are three most basic choices i.e. to live long and healthy lives, to get education, and to have access to the sources of need to live properly. If these three basic things are not owned, then other options are inaccessible.

According to Lilya and I Ketut, high level of human development greatly determines the ability of the population to absorb and to manage the sources of economic growth, in relation both technology and institution as an important means to achieve economic growth [4]. The achievement of HDI is categorized by the following standards:

Very high	: $IPM \geq 80,00$
High	: $70 \leq IPM < 80$
Moderate	: $60 \leq IPM < 70$
Low	: $IPM < 60$

The Human Development Index becomes one of the important indicators in looking at the other side of development. The important benefits of HDI include the following:

- HDI is an important indicator for measuring success in building the quality of human life (community / population).
- HDI can determine the ranking or level of a region / country development.
- For Indonesia, HDI is a strategic data because not only as a measurement of government performance but also as one of the allocators of the determination of General Allocation Fund [3].

Ranis gave her opinion on human development that has important effect on economic growth. Human development can be seen as an aspect that may affect profit maximization. Thus, human development is always related to human capital while human capital can affect the economic growth of a region; so that, human development will have an impact on economic growth [5].

Therefore, the most effective way in sustainable human development is achieving an improving economic growth and equaling distribution of income. Ranis et al. indicated that economic growth and human development contribute to each other [6]. The contribution of human development to economic growth by increasing the capacity of employees can ultimately increase economic production; so that, the output of society will also increase. Meanwhile, according to Kosack and Tobin [7], the contribution

of economic growth to human development is to increase government revenue that can then be invested in human development. This investment is aimed at education and health that can improve worker productivity, improve skills acquisition, develop science, and be able to develop technological progress [7].

## 2. Methods

This research used descriptive qualitative research. It means that the researcher did analysis and interpretation to data obtained. Secondary data, both quantitative and qualitative, were used in this research. The data were sourced from cross section data of BPS of East Java Province of UNDP in various publications covering East Java Province human development index with income, health and education indicator in 2016. Cross section data in this research was analyzed by using descriptive method that was by comparing differences among subjects. Therefore, the researcher made the comparisons to make various descriptive analyses. Thus, critical findings were obtained with in-depth analysis.

## 3. Results and Discussion

### 3.1 Development of Human Development Index in East Java Province

The Human Development Index (IPM) is a composite index calculated as a simple average of 3 (three) indices (education, health, and income / purchasing power) that describes the basic human capability of expanding options calculated in percent unit. In this research, the index of human development was the final calculation from the average of the three indexes. Hereunder, we can see the development of Human Development Index in East Java Province in last 5 years.

**Table 1.** Human Development Index in East Java Province

Tahun	2012	2013	2014	2015	2016
HDI	66,74	67,55	68,14	68,95	69,74

Source: data processed 2018

Based on the table previous, the Human Development Index in East Java Province in last 5 years shows an increasing trend. The development in East Java Province has continued to experience a positive increase or development. Although HDI of East Java was still in the moderate category, but the development was quite good; even in 2016, the development in East Java was approaching the high category of 69.74. However, the good trend of HDI was not followed by the evenness level of the HDI rate in each Regency and City in East Java Province. After seeing the result, the achievement of human development in East Java showed a high level of disparity.

### 3.2 Disparity of Human Development Inter-Region in East Java

HDI of East Java was calculated through comparisons of life expectancy, education, and decent living standard that can be seen from the income level of the community. In the province scope, the development of HDI showing positive trend cannot always describe the achievement of equitable development. The achievement of human development at the provincial level has showed various achievements of human development inter-region. The achievement index of human development of East Java Province in 2016 was as follows.



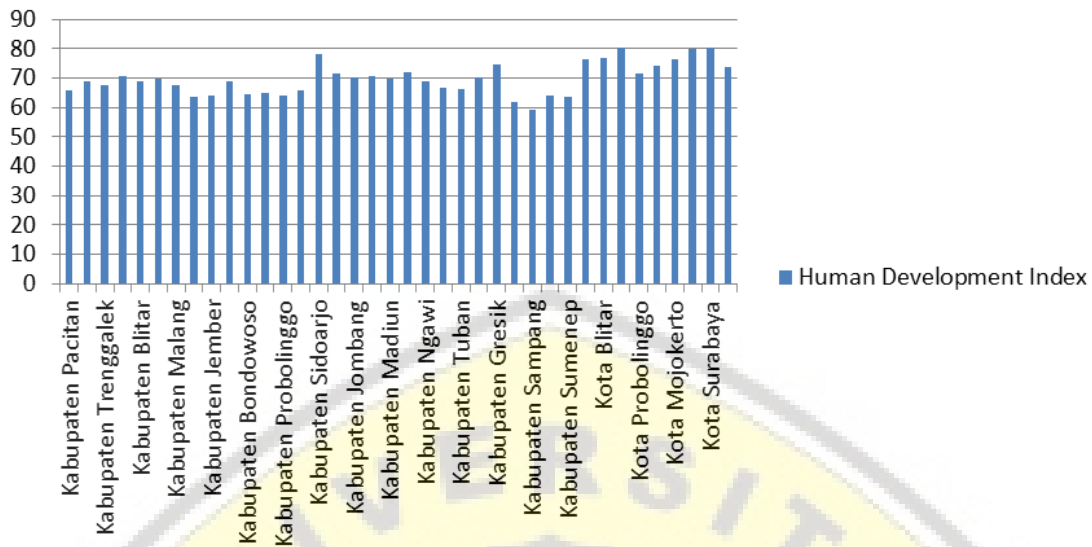


Figure 1. Graph of Human Development Index in East Java Province in 2016

Based on the graph previous, there are various development achievement variations from 29 regencies and 9 cities. The highest achievement of human development was in Malang with HDI in 2016 has reached 80.46 in very high category (> 80) while the lowest achievement of human development was in Sampang Regency with only 59.09 HDI in the low category (<60). Most regencies and cities have been in "moderate" human development status, and the rests were in the "high" and "very high" categories.

Based on the data, it was known that there has been a very high development disparity among regions in East Java. To know the contributing factors of inequality level in East Java Province, it can be seen in data of income level, health level and education level of society in East Java Province as follows.

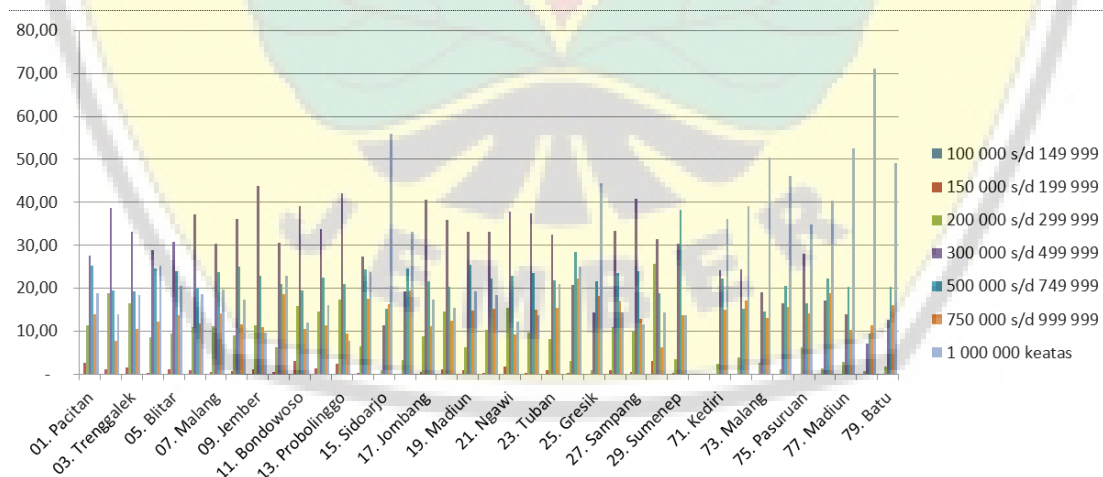


Figure 2. Graph of Per Capita Revenue Rate in East Java Province in 2016

Based on the graph previous, it can be seen that the people in Malang as the city with the highest HDI in East Java Province; 50.38% has got income above Rp. 1,000,000; 13.12% has got income Rp. 999,999 - Rp. 750,000; 14.66% has got income Rp. 749,999 - Rp. 500,000; 19.16% has got income Rp. 499,999 - Rp. 300,000; 2.69% has got income Rp. 299,999 - Rp. 200,000, and 0% has got income below

Rp. 200,000. While the people in Sampang Regency with the lowest HDI in East Java Province only 11.66% has got income above Rp. 1,000,000; 12.91% has got income Rp. 999,999 - Rp. 750,000; 24.03% has got income Rp. 749,999 - Rp. 500,000; 40.83% has got income Rp. 499,999 - Rp. 300,000; 10.02% has got income Rp. 299,999 - Rp. 200,000; 0.56% has got income Rp. 199,999 - Rp. 150,000 and 0% has got income below Rp. 150,000.

From the data, it could be seen the proportion of unbalanced income, in Malang City; the largest proportion was in the community who got income above Rp. 1,000,000 while in Sampang Regency; the largest proportion was in the community who got income between Rp. 499,999 - Rp. 300,000. Even there were still people with very low income that was between Rp. 150,000 - Rp. 199,999. It showed that in Sampang Regency, there are still many people who live below the feasibility line.

The low level of income in Sampang Regency should be of particular concern to the government of East Java Province. The large number of people living below the poverty line can have a negative impact. Therefore, the effort of the provincial government of East Java starting in 2017 in order to encourage the increase of people's income in Sampang Regency is needed. The indicator used to calculate HDI (Human Development Index) was health level. The data of public health level of East Java can be seen in the graph 3:

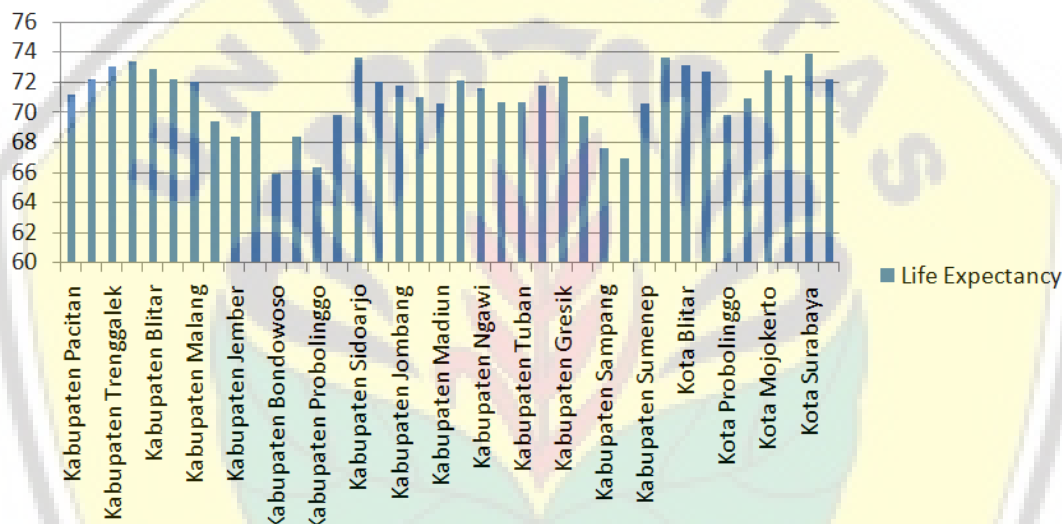


Figure 3. Graph of Health Level in East Java Province in 2016

Life Expectancy at Birth is defined as the approximate average of many years that a person can take from birth. Life Expectancy at Birth reflects the health status of a society. Based on the graph previous, it can be seen that in 2016, Sidoarjo regency was the regency with the highest life expectancy in East Java Province that was 73.67. While Bondowoso regency was the region with the lowest life expectancy that was 65.89. It showed that health status of Bondowoso regency was at a moderate level.

Based on the data previous, life expectancy at birth of East Java community showed a moderate level of disparity. However, the effort to improve people's life expectancy still needs to be improved. In this case, the government has a very important role. The government affords both through economic factors to increase people's life expectancy and by providing adequate health care facilities, socializing the importance of clean and healthy environment to the community, and encouraging people to behave healthily.

The third indicator used in calculating HDI (Human Development Index) was the education level. It can be seen from the school life expectancy (EYS) and the average school duration (MYS). The education level in East Java Province can be seen in the following figure:

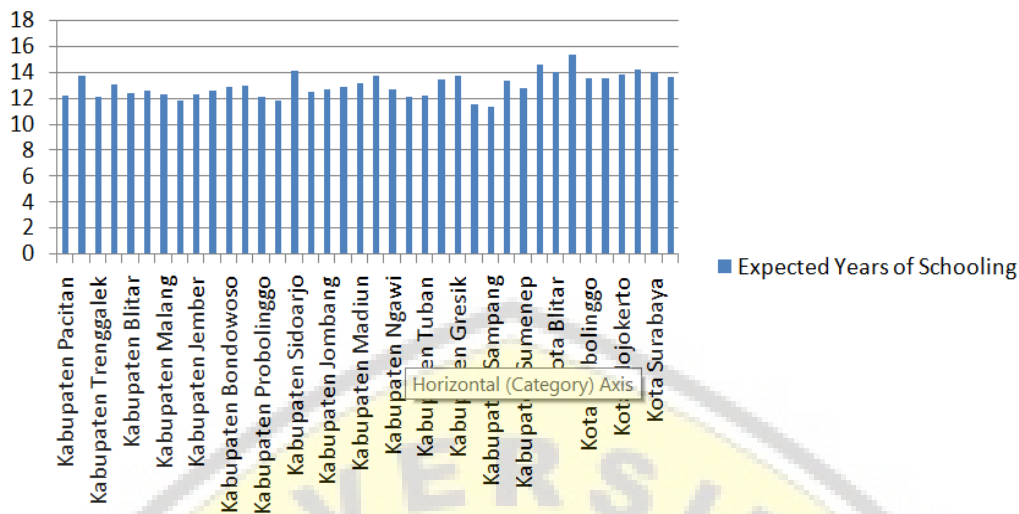


Figure 4. Expected Years of Schooling in East Java Province in 2016

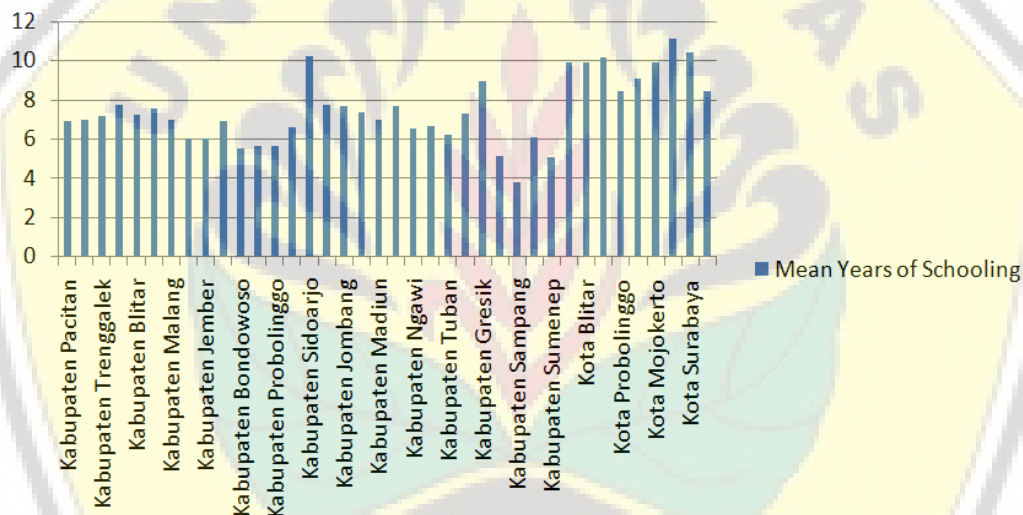


Figure 5. Mean Years of Schooling in East Java Province in 2016

School Life Expectancy (EYS) is defined as the length of school (in years) expected to be perceived by a child at a certain age in the future. EYS is calculated at the age of 7 years and above because it follows the government policy that is compulsory education program. Based on the graph 5, the highest EYS achievement was in Malang which is 15.38 while the lowest was in Sampang regency that is 11.37.

Average School Duration (MYS) is defined as the number of study years of population aged 15 years and above that is completed in formal education (excluding repeat years). Based on the graph 5, Sampang Regency was the lowest regency with MYS of 3.79 While Madiun city was the city that had the highest MYS of 11.09. The high average school duration (MYS) indicates the level of education that has been / is being occupied by a person. The higher the number MYS, the longer / higher levels of education he finished.

Based on the data previous, we can know that Sampang Regency has the lowest level of education. Therefore, Sampang Regency should be a top priority for the government of East Java Province in an effort to improve the quality of human resources especially in the field of education. The efforts to increase the education level can be done by expanding educational opportunities for the community, providing tuition fees, and providing adequate infrastructures and facilities.

#### 4. Conclusion

All in all, it can be concluded that the Human Development Index (HDI) in East Java Province showed a good achievement. However, the achievement of human development was still followed by a high level of disparity that was contributed by indicators contributing to the calculation of Human Development Index (HDI) in East Java Province including per capita income, health level, and education level. Malang was the highest achievement of human development with HDI in 2016. Increasing Per Capita Revenue Rate can be done by: 1) improving the quality of education in the community, 2) maximizing the role of Small and Medium Micro Enterprises by providing business capital, 3) improving the quality of community services, especially in facilities and infrastructures, 4) maximizing cooperation and good relation with the government and investors, 5) doing good management of the regionally potential sources, so it can create employment for the community. The success of human development was determined by the success of all dimensions. The success of one dimension could not conceal the shortcomings of other dimensions. Therefore, to make the achievement of human development increase, the government must increase the awareness of the development of society in three dimensions.

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