

The Analysis of Determinants of Developing Village Index in Indonesia

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Abstract. *Indonesia has been suffering from economic and social disparity. The most common gap occurs between rural and urban communities. This level of inequality also occurs within the villages themselves. Therefore, to support village development, The Ministry of Village, Development of Disadvantaged Regions, and Transmigration of Indonesia has developed Developing Village Index (Indeks Desa Membangun) to provide information and village progress status. This paper reviews the relation of the Developing Village Index with local factors. The author applies several local variables of 434 municipalities/districts in all over Indonesia using data of 2017. By using Multiple Linear Regression as the methodology, the author found a positive and significant relationship between the Human Development Index (X1) and Population Size (X3) toward the Developing Village Index (Y). Besides, the author also found a negative and significant relationship between Area Size (X2) and The Regional Level of Surplus and Deficit (X5) toward the Developing Village Index (Y). At the same time, some variables do not have a significant effect on Developing Village Index such as Local Government Capital Expenditure (X4) and Local Grant (X6).*

Keywords: *Developing village index, human development index, local government capital expenditure, the regional level of surplus and deficit, local grant.*

1. Introduction

In order to develop national security and stability, a country needs to minimize the disparity level among regions. Based on the Central Bureau of Statistics data, villagers are dealing with a higher poverty level which amounted to 13.93% compared to the urban community which only 7.7% (Badan Pusat Statistik, 2017).

The lack of villagers' economic and social ability leaves them unprepared with many changes that will soon be faced, such as demographic bonus and industry revolution 4.0. Despite the gap between cities and villages, the government also needs to concern the high disparity among the villages themselves. The Ministry of Village, Development of Disadvantaged Region and Transmigration mentioned that villages are dominated by the underdeveloped region (*desa tertinggal*) compared to develop (*desa berkembang*).

In answering this national disparity issue, especially in villages themselves, Joko Widodo and Jusuf Kalla who is the President and Vice President of The Republic of Indonesia for 2014-2019, have formulated a program called Nawa Cita. Nawa Cita consists of 9 priority agendas which then become the development strategy in the 2015-2019 National Medium-Term Development Plan. The third point of Nawa Cita clearly stated a vision to “Developing Indonesia from the outer boundary by strengthening regions and villages within the framework of a unitary state”. This is intended to overcome the problem of poverty and vulnerability resulting from the development of inequality between city and village.

These goals provide a clear direction for the government to be present in the framework of facilitation, affirmation, integration, and acceleration towards the creation of an Independent Village (*desa mandiri*). The policy that was born was no longer in the capacity

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to control and dictate, but rather to trigger the village's original creativity on its own.

Related to that, in 2017, the government has provided funds as much as 60 trillion Rupiah to be dedicated to the villages all around Indonesia (Ministry of Finance, 2017a). The Ministry of Villages, Development of Disadvantaged Regions, and Transmigration were formed to carry out the mandate of Law No. 6 of 2014 concerning Villages. The Village Law provides a basis for new perspectives and approaches to the Village emphasizes the principle of diversity, the principles of recognition with subsidiarity, and reinforces them in the types of village authority. Therefore, to measure the efficiency of this program, The Ministry of Villages, Disadvantaged Regions and Transmigration has been conducting The Developing Village Index or in Indonesian term called *Indeks Desa Membangun* since October 2015 (Ministry of Villages, Disadvantaged Regions and Transmigration, 2016).

Two things that underlie this Developing Village Index are to map the status of village development including the consideration to its characteristics, as well as the target instrument for achieving the Regional Medium-Term Development Plan (*Rencana Pembangunan Jangka Menengah Nasional*) 2015-2019. There are three dimensions in forming this Developing Village Index. They are including the economic, social, and environment, which was adopted from sustainable development goals by the United Nations. The status of village assessment is also divided into five, that is (i) very underdeveloped villages (*desa sangat tertinggal*), (ii) underdeveloped village (*desa tertinggal*), (iii) developing village (*desa berkembang*), (iv) developed village (*desa maju*), and (v) independent village (*desa mandiri*). In 2015, the Ministry of Villages, Development of Disadvantaged Regions, and Transmigration had recorded that the number of the independent and developed village is so little compared to the total village. Table 1 below is describing the proportion of villages in its status/category.

Table 1
Villages Per Status

| Village Status | Number of Village | Percentage of Village |
|-----------------------------|-------------------|-----------------------|
| Very Underdeveloped Village | 13,453 Villages | 18.25% |
| Underdeveloped Village | 33,592 Villages | 45.57% |
| Developing Village | 22,882 Villages | 31.04% |
| Developed Village | 3,608 Villages | 4.89% |
| Independent Village | 174 Villages | 0.24% |

The government has spent a lot of resources in actualizing this goal, where inequalities between urban and rural life can be reduced. Therefore, it is important to achieve the best level of effectiveness. In supporting the President's program, this paper is aimed to know the relationship of some local factors (i.e Human Development Index, Area Size, Population Size, Local Government Capital Expenditure, Regional Level of Surplus and Deficit, and Local Grant) towards the Developing Village Index. This research is delighted to provide additional insights so that the number of developed and

independent villages can be increased. The increasing number of developed villages will push the level of inequality between villages and cities to be lower. Addressing this disparity between villages can help the government to solve bigger problems such as national equality and development. This research is specifically expected to be a reference for the central and local governments to manage some significant factors to achieve the most efficient plan and policy of the village development in the future.

Scope and Limitation

This research determines Developing Village Index as the dependent variable while Human Development Index, Area Size, Population Size, Local Government Capital Expenditure, The Regional Level of Surplus and Deficit, and Local Grant as the independent variables. Other methodology, technique, and variables that are not mentioned in this research considered as a limitation. All data both the independent and dependent variables are in the same level of municipal (*kota/kabupaten*). Here, the Developing Village Index value has been aggregated to municipalities/district level (*kota/kabupaten*). All independent variables are sourced from 2017 data while Developing Village Index is using 2018 data (since DVI is measuring the village's previous year performance). This study takes 434 municipalities/districts (*kota/kabupaten*) in all over Indonesia as the sample.

2. Literature study / Hypotheses Development

2.1. Developing Village Index

Developing Village Index was a composite index which is formulated with:

$$DVI=1/3(SOI+ECI+ENI)$$

SOI : Social Index

ECI : Economy Index

ENI : Environmental or Ecology Index

This composite index is used as a tool to develop a sustainable framework to achieve independent villages with complete aspects. The status of village assessment is divided into five, that is (i) very underdeveloped villages, (ii) underdeveloped village, (iii) developing village, (iv) developed village, and (v) independent village. Sourced from Regulation of The Village Minister (Permendesa PDT*Trans) Number 2 of 2016

concerning Developing Village Index (Ministry of Villages, Disadvantaged Regions and Transmigration, 2016), explanation of the village's status is described as follows:

1. Very Underdeveloped Village

Very Underdeveloped Village (*Pratama Village*) is a village that is vulnerable from natural disasters, economic shocks, and social conflicts so that it is unable to manage the potential of social, economic, and ecological resources. This kind of village has to experience poverty in various forms.

2. Underdeveloped Village

Underdeveloped Villages (*Pra-Madya Village*) is a village that has potential in social, economic, and ecological resources but has lacked in managing the resources in effort to improve the welfare of rural communities and the quality of human life.

3. Developing Village

Developing Village (*Madya Village*) is a village that has potential in social, economic, and ecological resources but has not managed it optimally to improve the welfare of the village community, the quality of human life, and poverty alleviation.

4. Developed Village

Developed Village (*Pra-Sembada Village*) is a village that has potential in social, economic, and ecological resources. They can manage the resources to improve the welfare of the village community, the quality of human life, and poverty alleviation.

5. Independent Village

Independent Village (*Sembada Village*) is a village that can carry out village development to improve the quality of life as much as possible for the welfare of the village community with social, economic, and ecological security in a sustainable manner.

Village status is determined with certain thresholds. Table 2 below explains the limit value of the village's classification.

Table 2
Classification of Villages Index Value

| Village Status | Limit Value |
|-----------------------------|---------------|
| Very Underdeveloped Village | <0.491 |
| Underdeveloped Village | 0.492 – 0.599 |
| Developing Village | 0.600 – 0.707 |
| Developed Village | 0.707 – 0.815 |
| Independent Village | >0.815 |

Sourced from Hamidi, et al. (2015), the variable of each dimension has indicators that are used to arrange the Developing

Village Index. The Table 3 below sets out these indicators:

Table 3
Indicators of the variables in Developing Village Index

| Num | Dimension | Variable | Indicator |
|-----|-----------|---|--|
| 1 | Social | Health | 1 Time to reach the health infrastructure is less than 30 minutes |
| | | | 2 The availability of health workers, midwives, and doctors |
| | | | 3 Access to <i>poskesdes</i> , <i>polindes</i> , and <i>posyandu</i> |
| | | | 4 <i>Posyandu</i> activity level |
| | | 5 BPJS membership level | |
| | | 6 Access to Elementary School is less than 3 KM | |
| | | 7 Access to Junior High School is less than 6 KM | |
| | | 8 Access to Senior High School is less than 6 KM | |
| | Education | 9 Illiteracy eradication activities | |
| | | 10 Early Childhood Education and Development activity | |
| | | 11 Learning Center Package activity | |
| | | 12 Community Reading or Rural Library | |
| | | 13 Civilize the mutual cooperation (<i>gotong-royong</i>) | |
| | | 14 The availability of free public spaces | |
| | | 15 The availability of sports facilities or fields | |
| | | 16 The availability of sport community | |

Table 3
Indicators of the variables in Developing Village Index (cont.)

| Num | Dimension | Variable | Indicator |
|-----|---------------------|--|---|
| | | | 17 Ethnic diversity |
| | | 8. Tolerance | 18 Languages diversity |
| | | | 19 Religious differences |
| | | | 20 The availability of Village Security System (<i>siskamling</i>) |
| | | 9. Security | 21 Villagers active participation in <i>Siskamling</i> |
| | | | 22 The incidence rate of mass fights |
| | | | 23 Reconciliation of the mass fight |
| | | 10. Social Welfare | 24 The availability of disabilities student school |
| | | | 25 The rate of population that is not prosperous (Homeless Children, Commercial Sex Workers, and Beggars) |
| | | | 26 The rate of people who commit suicide |
| | | 11. Clean and Decent Water | 27 Access to have decent source of drinking water |
| | | | 28 Access to have decent source of bathing and washing water |
| | | 12. Access to sanitation | 29 The number of villagers who have latrines. |
| | | | 30 Availability of garbage dump |
| | | 13. Access to Electricity | 31 Availability of electricity |
| | | 14. Access to Information and Communication | 32 The amount of people who have cell phones and good signals |
| | | | 33 The availability of local, national and foreign television broadcasts |
| | | | 34 The availability of internet access |
| | | 15. Diversity of Village Community Production | 35 Multiple economic activity |
| | | 16. The Availability of Trade Service Center | 36 Access to trade centers |
| | | | 37 The availability of trade sector |
| 2 | Economic Resilience | 17. Access to Distribution / Logistics | 38 The availability of post office and logistics services |
| | | 18. Access to Financial Institutions and Credit Bank | 39 The availability of public banking institutions |
| | | | 40 The availability of credit bank |
| | | | 41 Access to credit |

Table 3
Indicators of the variables in Developing Village Index (cont.)

| Num | Dimension | Variable | Indicator | |
|-----|-----------|---------------------------|---|--|
| 3 | Ecology | 19. Economic Institutions | 42 The availability of cooperative institutions (<i>kooperasi</i>) | |
| | | | 43 The availability of food court, restaurant, hotel, and lodging venues | |
| | | | 44 The availability of public transportation modes | |
| | | 20. Easy Access | 45 The width of roads that can be passed by motorcycle and four-wheeled vehicle | |
| | | | 46 The quality of village road | |
| | | | 47 The rate of water, land and air pollution | |
| | | 21. Environmental Quality | 48 A river affected by waste existence | |
| | | | 49 Water, soil, and air pollution | |
| | | | 50 Natural disaster events (floods, landslides, forest fires) | |
| | | | 22. Potential/prone to natural disasters | 51 Efforts against potential natural disasters (Disaster response, evacuation equipment and routes, early warning and availability of disaster management) |
| | | | | 52 Anticipation effort or mitigation of natural disasters in the village |

To find out the relevant independent variables, the authors look for some previous studies that are relevant to rural development, both from journals whose subjecting domestic or abroad.

Table 4
Previous Studies

| Previous Studies | | Independent Variables | | | | | | |
|------------------------------|--|-----------------------|----|----|-----|-----|----|--|
| Author | Locus | HDI | AS | PS | LCE | LSD | LG | |
| Sularso & Restianto (2011) | Central Java, Indonesia | | | | v | | | |
| Nujum et al. (2016) | South Sulawesi, Indonesia | v | | | | | | |
| Panggabean (2014) | West Kalimantan, Indonesia | v | | | v | | | |
| Balaguer-Coll et al. (2006) | Spain | | | | | v | v | |
| Newton (1982) | Scotland | | v | v | | | | |
| Siregar & Wahyuniarti (2008) | Indonesia | | | v | | | | |
| Yusfany (2015) | Indonesia | | | | | v | | |
| Susanto & Rachmawati (2013) | Lamongan District, Surabaya, Indonesia | v | | | | | | |
| Anwar (2014) | Indonesia | | | | | v | | |
| Prasetyo et al. (2018) | Indonesia | v | v | v | | | | |

Notes of Abbreviation:

HDI: Human Development Index (*Indeks Pembangunan Manusia*)

AS: Area Size (*Luas Daerah*)

PS: Population Size (*Ukuran Populasi*)

LCE: Local Government Capital Expenditure (*Belanja Modal Pemerintah Daerah*)

LSD: The Regional Level of Surplus and Deficit (*Tingkat Surplus dan Defisit di Regional*)

LG: Local Grant (*Hibah Lokal*)

By seeing Table 4, we know that there are several studies that test the relationship between some variables with the local government efficiencies. The Developing Village Index is formed by many variables that directly measuring rural development. However, we inclined to investigate what other external factors might affect rural development. As explained in Prasetyo, Mulyono, and Nugroho (2018), the development of one region would be affected by the input factors and its governance. We select six variables that proxy the input factors and local governance, i.e. Human Development Index (HDI), Area Size (AS), Population Size (PS), Local Government Capital Expenditure (LCE), The Regional Level of Surplus and Deficit (LSD), and Local Grant (LG) towards Developing Village Index. The authors chose these six factors because they could represent external factors that have not been directly connected to the Developing Village Index. This is because if the independent variable is one of the elements forming indicators of the Developing Village Index, then the results of the research are certainly showing a positive relationship, and this kind of research is not needed. The selection of these six factors is also based on data availability.

2.2. Human Development Index

According to the United Nations Development Programme (UNDP), Human Development Index measures the outcomes of human development based on several basic components of life quality. Human Development Index is built through basic three-dimensional approaches that include long and healthy life, knowledge, and a decent living. Previous studies showed a diverse result on whether the human development affecting local development.

Nujum, Pyriadi, and Nur (2016); and Panggabean (2014) found no significant influence between the Human Development Index towards local performance development and economic growth. This study contradicts Susanto and Rachmawati (2013) which believe that the Human Development Index has significantly affected the economic development of a region. Higher Human Development Index will increase production factors which then boost production output.

2.3. Area Size

Prasetyo et al. (2018) found that the area size has a negative correlation with local government efficiency. They argue that there is a limitation of government span of control that makes the government with larger area size will be difficult to boost the development of remote areas.

2.4. Population Size

Population size in the municipality is several people living in a particular district permanently. Newton (1982) mentioned that population size has an ambiguous effect on rural effectiveness. This statistically significant relationship may differ depending on the region's characteristics. A common intuition is that economies of scale and agglomeration externalities typically make larger municipalities more efficient. However, the negative effects of having a larger population (scale inefficiencies) were also confirmed by some studies, such as from Siregar and Wahyuniarti (2008) which mentions the increase of population would affect an increase of poverty level.

2.5. Local government Capital Expenditure

Capital Expenditure related to the expenditure that is used to develop the infrastructure of the municipality. Sularso

and Restianto (2011); and Panggabean (2014) found a positive relationship between capital expenditure and local government efficiency.

2.6. *The Regional Level of Budget Surplus and Deficit*

Based on Balaguer-Coll, Prior, and Tortosa-Ausina (2006) findings, the Level of Surplus has a negative relationship with local efficiency. They have stated that as deficit increase, we may face a higher social awareness to encourage its reduction; in such case, the local governments may adopt strategies to enhance efficiency. The deficit could be a good proxy financial vulnerability as the inability of a municipality to face its present and future financial commitments.

This idea has been also supported by Anwar (2014) who also agrees that budget deficit will allow the national income enhancement. Yusufany (2015) also shows support for this idea. He finds a negative and significant correlation between surplus and efficiency,

stating that local bureaucrats in every year's budget tend to maximize the size of the budget to create opportunities to take advantage of local budgets freely according to the personal wishes.

2.7. *Local Grant*

Grant can be called a transfer that is received by the local government from the higher level of government. Balaguer-Colla, et al. (2006) believes that there is a negative relationship between the grant and local government efficiency. Yet, Nujum, et al. (2016) have resisted this research by proving that there is a positive relationship of simultaneous influence from grant and Human Development Index towards local government efficiency.

3. Methodology

3.1. *Conceptual Framework*

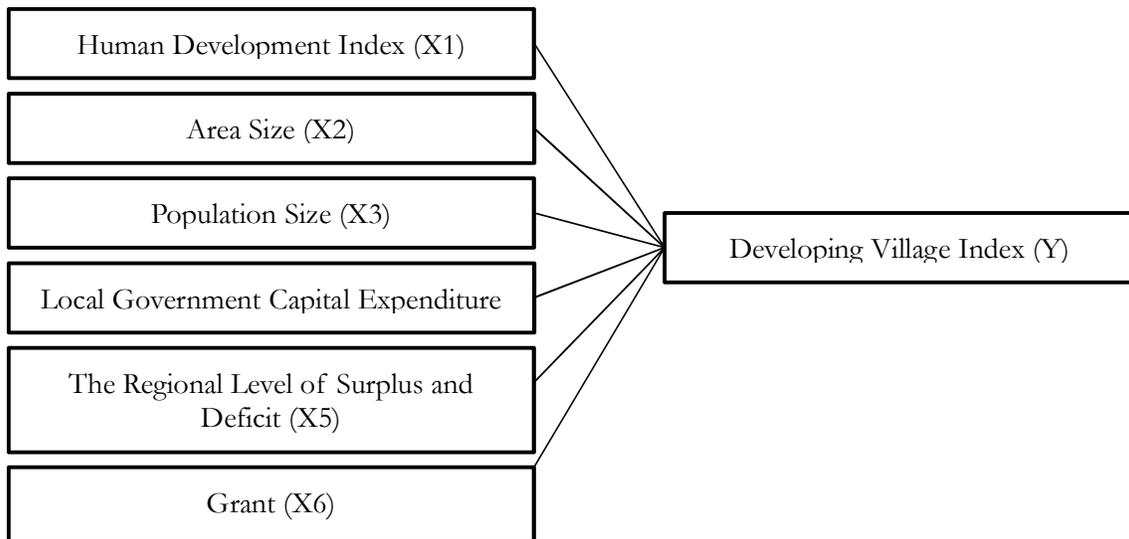


Figure 1
Conceptual Framework

In accordance with Figure 1, this paper develop hypotheses that explaining factors that might affect the level of Developing Village Index. There are six hypotheses (Ha) of several independent variables toward the dependent variable with the level of

significant $\alpha=0.05$ as stated in the below:

- Ha1: There is a significant relationship between the Human Development Index (X1) towards Developing Village Index (Y)
- Ha2: There is a significant relationship between Area Size (X2) towards Developing

Village Index (Y)

- Ha3: There is a significant relationship between Population Size (X3) towards Developing Village Index (Y)
- Ha4: There is a significant relationship between Local Government Capital Expenditure (X4) towards Developing Village Index (Y)
- Ha5: There is a significant relationship between The Regional Level of Surplus and Deficit (X5) towards Developing Village

Index (Y)

- Ha6: There is a significant relationship between Local Grant (X6) towards Developing Village Index (Y)

Whereas the data were collected from various sources as shown in table 5.

Table 5

Unit and Source of The Variable

| Unit | Variable | Data | Source |
|-----------------|---|--|---|
| 0 - 1 | Developing Village Index | Developing Village Index Annual Report 2018 | Ministry of Villages, Disadvantaged Regions and Transmigration (2018) |
| 0 - 100 | Human Development Index | Human Development Index Annual Report 2017 | Badan Pusat Statistik (2017) |
| Km ² | Area Size | Government administrative data of 2017 | Ministry of Home Affairs (2017) |
| Inhabitants | Population Size | Realization of Regional Revenue and Expenditure Budget of 2017 | Ministry of Finance (2017b) |
| Rupiah | The Local Government Capital Expenditure | | |
| Rupiah | The Regional Level of Surplus and Deficit | | |
| Rupiah | Local Grant | | |

These data is scaled down from the original data (into the scale of 0-1) for data processing needs.

4. Findings and Discussion

This research pursues a quantitative method. To ensure all data can be used in Multiple Linear Regression, it is important to check the Classical Assumption Test first.

4.1. Classical Assumption Test

4.1.1. Normality Test

Normality test is a test to examine whether the variables that have been used have a normal distribution or not. A good regression model should have normal distribution data. In this research, the author is using One-Sample Kolmogorov-Smirnov Test, with the level of significance used is $\alpha=0.05$. Data has claimed to be normally distributed if the p-value was greater than 0.05.

Table 6
One-Sample Kolmogorov-Smirnov Test Result

| Aspect | Unstandardized Residual |
|-------------------------------|-------------------------|
| <i>Kolmogorov-Smirnov Z</i> | 1.155 |
| <i>Asymp. Sig. (2-tailed)</i> | 0.139 |

Based on the table 6 above, the significance value which showed by Asymp. Sig. (2-tailed) is 0.139. Since $0.139 > 0.05$. Therefore, the residual value from the data is normally distributed.

4.1.2. Multicollinearity Test

Multicollinearity is a situation that shows a strong correlation or relationship between

two or more independent variables in a multiple regression model. A good regression model should not correlate with the independent variables. This multicollinearity situation can be seen from the tolerance value and variance inflation factor (VIF). There is no multicollinearity among independent variables if tolerance value > 0.10 or $VIF < 10.0$.

Table 7
Multicollinearity Test Result

| Variable | Collinearity Statistics | |
|--|-------------------------|-------|
| | Tolerance | VIF |
| <i>Human Development Index</i> | 0.915 | 1.092 |
| <i>Area Size</i> | 0.826 | 1.211 |
| <i>Population Size</i> | 0.656 | 1.525 |
| <i>Local Government Capital Expenditure</i> | 0.837 | 1.194 |
| <i>The Regional Level of Surplus and Deficit</i> | 0.678 | 1.474 |
| <i>Local Grant</i> | 0.977 | 1.023 |

Based on the Table 7 above, each variable has tolerance value > 0.10 and $VIF < 10.0$. Then, it can be concluded that there is no multicollinearity among the independent variables.

4.1.3. Heteroscedasticity Test

Heteroscedasticity test is a test to examine whether there is any difference between the

residual variance from one observation to another observation. A good regression model should have homoscedasticity or no heteroscedasticity. In this research, the author is checking the heteroscedasticity data by using Glejser Test. The analyzed data will be said to have no heteroscedasticity if the p-value is greater than 0.05.

Table 8
Heteroscedasticity Test

| Variabel | Sig. |
|--|-------|
| <i>Human Development Index</i> | 0.729 |
| <i>Area Size</i> | 0.533 |
| <i>Population Size</i> | 0.160 |
| <i>Local Government Capital Expenditure</i> | 0.841 |
| <i>The Regional Level of Surplus and Deficit</i> | 0.333 |
| <i>Local Grant</i> | 0.313 |

Based on the Table 8 above, the data has no heteroscedasticity or homoscedasticity since the significance value of each independent variable is more than 0.05.

4.2. *Multiple Linear Regression*

In measuring the relationship among several local government factors (i.e. Human Development Index, Area Size, Population

Size, Local Government Capital Expenditure, The Regional Level of Surplus and Deficit, and Local Grant) toward the Developing Village Index, the author uses Multiple Linear Regression. Multiple Linear Regression is a statistical technique that uses several explanatory variables to predict the outcome of a response variable.

Table 9
Multiple Linear Regression Result

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|--|-----------------------------|------------|---------------------------|--------|-------|
| | B | Std. Error | Beta | | |
| (Constant) | 0.130 | 0.025 | | 5.144 | 0.000 |
| <i>Human Development Index</i> | 0.698 | 0.038 | 0.590 | 18.289 | 0.000 |
| <i>Area Size</i> | -0.282 | 0.040 | -0.242 | -7.121 | 0.000 |
| <i>Population Size</i> | 0.363 | 0.048 | 0.288 | 7.552 | 0.000 |
| <i>Local Government Capital Expenditure</i> | -0.041 | 0.046 | -0.030 | -0.897 | 0.370 |
| <i>The Regional Level of Surplus and Deficit</i> | -0.042 | 0.016 | -0.097 | -2.585 | 0.010 |
| <i>Local Grant</i> | -0.030 | 0.109 | -0.009 | -0.274 | 0.784 |

As we can see from table 9, since the significance value of the Human Development Index, Area Size, Population Size, and The Regional Level of Surplus and Deficit are below 0.05, then accept Ha. It means there is a significant relationship between the independent variable (X) partially and the dependent variable. On the other hand, since the significance value of Local Government Capital Expenditure and Local Grant is above 0.05, then reject Ha. It means there is no significant relationship between the independent variable (X) partially and the dependent variable (Y).

Based on the table of Multiple Linear Regression results, the regression model will be stated as below:

$$DVI = 0.130 + 0.698HDI - 0.282AS + 0.363PS - 0.042LSD$$

This equation explains there is a positive significant relationship between the Human Development Index and Population Size toward the Developing Village Index.

Furthermore, there are negative significant relationship between Area Size and The Regional Level of Surplus and Deficit toward the Developing Village Index.

Moreover, there is also a coefficient of correlation (R) that indicates the strength of the correlation between the dependent and independent variables. Besides, the coefficient of determination (R Square) indicates the proportion or percentage of the total variation in the dependent variable which is explained by the independent variables. The criterion as follows:

- If $0.80 < R < 1.0$ indicates the variables are very highly correlated.
- If $0.60 < R < 0.799$ indicates the variables are highly correlated.
- If $0.40 < R < 0.599$ indicates the variables are moderately correlated.
- If $0.20 < R < 0.399$ indicates the variables are low correlation.
- If $R < 0.199$ indicates the variables have little correlation.

Table 10
The Coefficient of Determination Test Result

| R | R Square | Adjusted R Square | Std. Error of the Estimate |
|--------------------|-----------------|--------------------------|-----------------------------------|
| 0.770 ^a | 0.593 | 0.587 | 0.0440273 |

Based on table 10, we get two important points. They are:

- The coefficient of correlation (R) of 0.770 means that the correlation between Developing Village Index and the local government factors are highly correlated because it lies in the interval of 0.6 and 0.799.
- The coefficient of determination (R Square) of 0.593 indicates that 59.3% of the variation in the Developing Village Index can be explained by the Human Development Index, Area Size, and Population Size, Local Government Capital Expenditure, The Regional Level of Surplus and Deficit, and Local Grant. Meanwhile, 40.7% of the variation is explained by other causes.

The Discussions

Based on the data analysis, factors that affect Developing Village Index significantly are Human Development Index, Area Size, Population Size, and The Regional Level of Surplus and Deficit.

- Positive significant influence means higher Human Development Index will push higher level of Developing Village Index. Human Development Index plays an important role in the development of a modern economy because good human development will make the factors of production able to be maximized (Sukirno, 2006). Good population quality will be able to innovate in developing existing factors of production.
- This result is in line with the finding of Prasetyo et al (2018). Typically, the larger the area, the more facilities are needed. This negative significant influence means that the larger area has not been able to provide better infrastructure for the needs of the community, such as firefighters, public lighting, electricity networks, sidewalks, and garbage dumps.

- Population size has an ambiguous effect on rural effectiveness (Newton, 1982). This effect highly depends on the human resources quality. In accordance with the research of Lonni, Kasnawi, and Uppun (2013), the quality of human resources who live in a specific area will determine how it will influence the regional economic growth. If the population of a particular area is categorized in productive age, has an adequate level of education and gets proper health services, then it would definitely support the development of their residence, so does the opposite apply. If the population of a particular area is categorized in unproductive age, has no sufficient level of education, even get no proper health services, then the more the population will contribute to the higher level of regional poverty which then lead to more difficult for a village to develop. Since Population Size turns having positive significant relationship towards Developing Village Index, then, it means more population size usually will lead to a better village development. The high population size with extensive knowledge and skills are expected to drive rural development by increasing the welfare of the community (Hardini, 2011).

High population level also encourages social and solidarity level to be higher. The village community is very close to the principle of mutual cooperation (*gotong royong*). Therefore, the more people, the higher level of village prosperity. Our study believes that quantity plays an important role in a village development. This is understandable since the more people will result more labor that would trigger the economic movement in an area.

- The Regional Level of Surplus has negative significant influence towards Developing Village Index. This means the more of

surplus weighs a negative village growth. This finding is supported by the research of Teresa Balaguer-Colla et al. (2006) which claims the Level of Surplus has a negative relationship with local efficiency.

- Teresa Balaguer-Colla et al. (2006) have stated that as deficit increase, we may face a higher social awareness to encourage its reduction; in such case the local governments may adopt strategic to enhance efficiency. Deficit also could be a good proxy financial vulnerability as the inability of a municipality to face its present and future financial commitments. This idea has been also supported by Anwar (2014) and Yusufany (2015) who also agrees that budget deficit will allow the national income enhancement.

5. Conclusion

The primary aim of this study is to identify the factors influencing the Developing Village Index. The findings reveal that several factors possess significant relationship towards Developing Village Index. The significant factors are Human Development Index, Area Size, Population Size, and The Regional Level of Surplus and Deficit. The correlation between Developing Village Index and these factors are highly correlated. Besides, 59.3% of the variation in the Developing Village Index can be explained by these examined factors.

Also, the factors that have a positive significant relationship toward Developing Village Index are the Human Development Index and Population Size. The higher on these factors create a larger Developing Village Index. Meanwhile, Area Size and The Regional Level of Surplus and Deficit are the factors that have negative significant relationship toward Developing Village Index. The higher on these factors create a lower Developing Village Index.

Based on the findings, this paper provides several recommendations for the policy makers:

- Local government should push and support

the education services quality in the villages. The better education level will certainly lead to a better Human Development Index. The higher Human Development Index indicates the more capable the community to develop their region. More educated population will certainly also encourages the creation of the regional positive growth.

- Local government should always keep up for the health services improvement in the villages since the longevity and healthy life of residents of an area also bolster the Human Development Index to be higher.

- Local government has to try to reduce the number of unemployed. The reduced unemployment number will increase the balance of people's ability to shop and meet their needs. The higher the income per capita will indicate the higher level of the community prosperity in Human Development Index.

- The government should consider to further splitting larger areas to reach the development in remote areas. Besides, to increase the Developing Village Index, the villages were required a sufficient level of infrastructure quality and sustainability. Infrastructure is crucial to have easy access as well as to serve the multiplier effect which will be so beneficial to increase the villager's income. Yet, it is important to emphasize the maintenance and good use of these infrastructures. The costs incurred to build large infrastructure do not necessarily have a positive effect on village development. Infrastructure development must be accompanied by effective utilization and maintenance of the community.

- Local government needs to push forward solidarity among the villagers since it will boost the economic acceleration. This matter will utilize the high population to make significant growth for the village.

- Local government also expects to use the existing budget to fulfill the community needs. Since the deficit has proven to drive the growth of village development significantly, it is recommended for the local government to use the money as strategic decisions to strengthening the country's health, education, and social protection.

Indonesia needs to prioritize investing in the people.

References

- Anwar, K. (2014). Analisis Dampak Defisit Anggaran terhadap Ekonomi Makro di Indonesia. *Jejaring Administrasi Publik*, 4(2), 588-603.
- Badan Pusat Statistik. (2017). *Indeks Pembangunan Manusia* [Human Development Index]. Jakarta: Badan Pusat Statistik.
- Balaguer-Coll, M. T., Prior, D., & Tortosa-Ausina, E. (2007). On the determinants of local government performance: A two-stage nonparametric approach. *European Economic Review*, 51(2), 425-451.
- Hamidi, H., Setijonegoro, F. X. N., Fujitriartanto, A. S., Harioso, H., Hardiyanto, A., Waluyanto, B., ... & Mu'arofah, A. F. (2015). Indeks Desa Membangun 2015 [Village Development Index]. Jakarta: Kementerian Desa, Pembangunan Daerah Tertinggal dan Transmigrasi.
- Hardini, D. A. (2011). *Hubungan antara Pertumbuhan Penduduk, Kemiskinan dan Pertumbuhan Ekonomi terhadap Kualitas Lingkungan di Kota Semarang Tahun 2001-2008* (Doctoral dissertation, Universitas Negeri Semarang).
- Lonni, Kasnawi. T., & Uppun, P. (2013). Pengaruh Kualitas Sumber Daya Manusia terhadap pertumbuhan ekonomi di kabupaten Mamasa [Influence Quality Human Resource to Growth of Economics in Sub-Province of Mamasa]. Retrieved from <http://pasca.unbas.ac.id/jurnal/files/4013e72702847521673251f61042e080.pdf>.
- Ministry of Home Affairs. (2017). *Data Administrasi Negara Kesatuan Republik Indonesia* [Administrative Data of the Republic of Indonesia]. Jakarta: Ministry of Home Affairs.
- Ministry of Finance. (2017a). *Buku Pintar Dana Desa* [Village Fund Smart Book]. Jakarta: Ministry of Finance.
- Ministry of Finance. (2017b). *Realisasi Anggaran Pendapatan dan Belanja Daerah* [Realization of Regional Revenue and Expenditure Budget]. Jakarta: Ministry of Finance.
- Ministry of Villages, Disadvantaged Regions and Transmigration. (2016). *Peraturan Menteri Desa, Pembangunan Daerah Tertinggal dan Transmigrasi Republik Indonesia (Permendesa PDTTTrans) Nomor 2 Tahun 2016 tentang Indeks Desa Membangun* [Regulation of the Minister of Villages, Development of Disadvantaged Areas and Transmigration of the Republic of Indonesia (Permendesa PDTTTrans) Number 2 of 2016 concerning the Developing Village Index]. Jakarta: Ministry of Villages, Disadvantaged Regions and Transmigration.
- Ministry of Villages, Disadvantaged Regions and Transmigration. (2018). *Laporan Tahunan Indeks Desa Membangun* [Developing Village Index Annual Report]. Jakarta: Ministry of Villages, Disadvantaged Regions and Transmigration.
- Newton, K. (1982). Is small really so beautiful? Is big really so ugly? Size, effectiveness, and democracy in local government. *Political studies*, 30(2), 190-206.
- Nujum, S., Pyriadi, A., & Nur, M. (2016). Analysis of the Reciprocal Relationship of Local Government Expenditure Towards Human Development Index (Hdi) and Its Influence on Economic Performance in South Sulawesi. *Journal of Humanity*, 4(1), 53-69.
- Panggabean, M. (2014). The Influence of Private Investment, Human Development Index (HDI), and Local Government Capital Expenditure (LGCE) on the Economic Growth and Original Local Government Revenue (OLGR) in the Regency/City of West Kalimantan Province. *International Journal of African and Asian Studies: An Open Access International Journal*, 4, 142-150.

- Prasetyo, A. D., Mulyono, N. B., & Nugroho, L. I. (2018). Local governments' expenditures efficiencies and determinants: the case of Indonesia. *International Journal of Trade and Global Markets*, 11(3), 160-177.
- Siregar, H., & Wahyuniarti, D. (2008). *Dampak pertumbuhan ekonomi terhadap penurunan jumlah penduduk miskin*. Jakarta: Departemen Pertanian.
- Sukirno, S. (2006). Teori Pengantar Ekonomi Makro [Introductory Macroeconomics Theory]. Jakarta: PT Raja Grafindo Persada.
- Sularso, H., & Restianto, Y. E. (2012). Pengaruh kinerja keuangan terhadap alokasi belanja modal dan pertumbuhan ekonomi kabupaten/kota di Jawa Tengah [The effect of financial performance on the allocation of capital expenditures and economic growth in districts / cities in Central Java]. *Media Riset Akuntansi*, 1(2) 109-124.
- Susanto, A. B., & Rachmawati, L. (2013) Pengaruh Indeks Pembangunan Manusia (IPM) dan Inflasi Terhadap Pertumbuhan Ekonomi di Kabupaten Lamongan. *Jurnal Pendidikan Ekonomi (JUPE)*, 1(3), 1-18.
- Yusfany, A. (2015). The efficiency of local governments and its influence factors. *International Journal of Technology Enhancements and Emerging Engineering Research*, 4(10), 219-241.