

VILLAGE POTENTIAL MAPPING BASED ON DEVELOPMENT VILLAGE INDEX (DVI)

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Abstract

The independence of the nation's economy depends very much on empowering the rural economy based on its potential. The purpose of this paper is to find out the potential and economic problems of a village based on the Study of Development Village Index (DVI) as the basis for the analysis of sustainable economic development. Exploratory method is used in this research to understand the value of DVI related to village potential mapping. The first step is to do literature studies on village index building and village economic empowerment. Next activity is a survey to collect data based on 6 measuring variables and 12 indicators from the village ministry. Tepas villages, sub district Kesamben, Blitar is one example of applying rural economic development based on its potential mapping. From result of measurement of economic resilience variable got Economic Index (EI) equal to = 0,665. There are several indicators that need to be improved to improve the village economy such as logistic services, banking and village transportation. It can be concluded that the improvement of economic activity in the future is in the form of increasing the smooth flow of goods and services either through the provision of logistic services and the procurement of rural transportation

Keywords : Development Village Index (DVI), Economic Index (EI), Village Tepas, Village Economic Empowerment

1. INTRODUCTION

The existence of a rural economy is very important for national economic resilience, it is reinforced by the Law No. 6/2014. This law has opened space for villages to optimize the potential that exists in their respective regions. The potential of a diverse Indonesian village with its natural wealth and culture must be well managed and correct. There are two aspects of village contribution in doing national development that is as producer of product / service and as big consumer. The toughest challenge today is the declining number of villagers due to urbanization to major cities in Indonesia.

In the compass news, Sunday 11/10/2005 at <http://tekno.kompas.com> states that Marwan's minister's statement is that the contribution of the village can be realized through efforts to increase people's purchasing power which is one of the instruments to revitalize the sluggish economy. Increased purchasing power will be able to encourage consumption and increase trade transactions both in rural and urban areas. With both ways, the wheels of the economy can spin

fast. "I want the villages to make a real contribution to the national economic recovery process, so I continue to push the village funds immediately to the village and directly used to build the village infrastructure, mobilize the village economic business, so that the village economy moves fast and contribute to the recovery of the national economy today", said Minister Marwan Jafar as quoted by a compass journalist.

The Development Village Index, or DVI (Hamidi H., et al, 2005), was developed to strengthen efforts to achieve the village and rural development targets as outlined in the National Development Planning Year 2015 - 2019 (RPJMN 2015 - 2019) Disadvantaged Villages up to 5000 Villages and increase the number of Mandiri Villages at least 2000 Villages by 2019. These development targets require clarity of locus (Village) and status of development. Build Village Index is not only useful to know the development status of each village attached to its characteristics, but also can be developed as an instrument for targeting in achieving the target of RPJMN 2015 - 2019 and coordination of K / L in village development.

DVI focuses more on strengthening village autonomy. This index follows the national spirit to improve the quality of village life as stated very clearly in the national development planning document through the optimization of the implementation of Law no. 6 Year 2014 on Village (Village Law), as well as political commitment to build Indonesia from the village through the formation of village ministries (Ministry of Village, Development of Disadvantaged Regions and Transmigration).

Developing village in Indonesia is faced with challenges to also be able expand rural economy and develop agriculture, livestock, plantation and other sectors according to existing potency Agricultural production of poor farmers, capture fisheries and cultivation must not only be protected, but will continue to be empowered with the support of the availability of infrastructure and facilities for the village and rural economy, access to credit finance and capital resources, research and technology, and the provision of information.

Tepas village is one of the villages in Kesamben sub-district in the eastern district of Blitar. Tepas village is located at an altitude of 800 m above sea level. Administratively Tepas village has a population of about 3800 people (2015) which is divided into four hamlets, namely hamlet west, east, south and Randuasri. Economy in Tepas village in 2017 began to squirm due to the creativity of the population led by the village youth. This is marked by the emergence of new economic activities such as cows, coconut scar, and so on. While nature in the village Tepas very fertile where is in the northern mountain region. Therefore, the economic potential in this village is very good for further study with a more specific Development Village index (DVI) discussed in the EI (Economic Index). The purpose of this paper is to find out the potential and economic problems of a village based on the Study of Development Village Index (DVI) as the basis for the analysis of sustainable economic development.

2. RESEARCH METHODOLOGY

In the implementation of potential economic-based economic (EI) management research in this Tepas village, two different data collection methods are used. The method used is as follows:

1. Library Research Method (Library Research) The method used in obtaining data by way of literature study in the library and by reading the sources of other information data related to the discussion. Thus, with this library research, the problems discussed can be solved by the existing theory.
2. Field Research Methods (Field Research). This method is used in data collection, where investigators are directly involved in the research project, while other methods used in this Field Research are:
 - Interview, which is a method used in obtaining data by asking questions directly at the time the village is holding an activity.
 - Observation, which is a method of obtaining data by conducting direct observation of the actual situation in the village.

The steps in conducting this research are as follows:

1. Collection of data on economic resilience of villages based on variables and indicators of the assessment. For the field of EI study there are 6 variables and 12 indicators. The 6 variables are: Diversity of Village Community Production, Available Trade Service Center, Access Distribution / Logistics, Access to Financial Institution and Credit, Economic Institution, Openness Area.
2. Determining the indicator value based on the match of the available parameter options. The value of parameters on a scale of 1 to 5, where the value of the greater the better its existence.
3. Calculate the Economic Index (EI) value based on the formula as follows:

$$EI = \frac{\Sigma \text{Indicator } X}{\text{Maximum value } X} \quad (1)$$

4. Establish a rural economic endowment category with the following criteria:
 - $EI \leq 0.491$ is categorized as a very lagged or poorly managed village economic resilience.
 - $0.491 < EI \leq 0.599$, categorized as less good economic resilience.
 - $0.599 < EI \leq 0.707$, categorized as a growing economic resilience.

- $0.707 < EI \leq 0.815$, categorized as an advanced economic resilience.
 - $EI > 0.815$ is categorized as a self-sustaining highly developed economic village).
2. Analysis of the EI results for the recommendation of rural economic empowerment.

There are several supporting plots to collect data on indicators of economic resilience such as:

- Camera
- Street map on google map with Mobile phone
- Worksheet questioner is an indicator of economic resilience.

3. ANALISYS OF RESULTS AND DISCUSSION

3.1. Survey of Economic Resilience Data

The village is directly adjacent to Pagerwojo Village, Tapakrejo Village, Kemirigede Village and Jambepawon Village (Doko district). Most of the streets in Desa Tepas have been connected by the asphalt roads done on the 2015 project. The location and position of Tepas towards the surrounding area is shown in Figure 1a and 1b below. The natural condition of the village has many mountains and hills that become the basis of life for the surrounding population. The village is passed by two small rivers which are the source of water as a means of irrigation for agricultural and plantation business in the region. Mountains that are the source of the livelihoods of the surrounding people, i.e., as farmers, breeders and loggers' wood. With a fairly populated population and vast area of productive areas, the economic potential of the village should be enormous.



Figure 1. a. Border of Tepas village, b. Location of Kesamben district.

Based on the results of the preliminary survey seen that people in the village. West Tepas is still a lot of unemployed, even actually wood cutter is not fixed with the average work - work 2 to 3 days a week, the rest are unemployed. The natural potency of west Tepas as producer of sweet potato, corn, soybean and paddy is shown in figure 2. There are also some youths now have started pioneering dairy cattle as the main business in their economy even have

been formed farmer group of cattle farmers. The average cattle rancher has 4 to 7 cows per cage with a very traditional management. Cow feeds are still given from the grass around or from the stem of the rice plant. Based on interviews to several cows, they produce fresh milk between 10 to 13 liters of fresh milk each day. While the price of cow milk purchased from the Village Unit Cooperative about Rp. 4,000, 00 per liter. The economic count of the farmers still gets a little profit compared to the energy and time to be spent.



Figure 2. Most of Potential of Tepas Village as raw material of dairy cattle breeder

3.2. Assessment of Economic Index (EI)

In assessing the economic resilience of a village, there are parameters that show the value of each variable supporting the settlement of Tepas Village, Kesamben Subdistrict, Blitar Regency, East Java. These parameters have been adapted to the Village Potential in accordance with Indonesian geographies and other supporting factors. Some indicators have represented the assessment variables previously obtained from observations, interviews and secondary surveys through village officials or officials divided into several assessment classifications. This assessment is a value of 1, 2, 3, 4, and 5 based on the following parameters. Table 1 below shows a table of parameters of Economic Index (EI) of Villages consisting of 6 variables and 12 indicators

Table 1. Parameters on the economic index indicator (EI) in Tepas village

No	Indikator	Nilai	Parameter
35	There is more than one type of economic activity of the population	1	There is 1 type of economic activity
		2	There is 2 type of economic activity
		3	There is 3 type of economic activity
		4	There is 4 type of economic activity
		5	There is 5 type of economic activity
36	Access the population to the trading center (shops, permanent markets).	1	The market is outside the villages > 3 km
		2	The market is outside the village 2,1-3 km
		3	The market is outside the village 1-2 km
		4	The market is outside the village < 1 km
		5	There is a market in the village
45	Roads that can be traversed by 4 or more wheeled motor vehicles	1	Road access very difficult
		2	Difficult road access
		3	Medium street access
		4	Easy street access
		5	Very easy access road
46	Quality of village road (widest road in village with asphalt, gravel, and soil)	1	Village road made of soil
		2	Village road made of pebbles
		3	Village road made of paving
		4	Village road made of concrete
		5	Village road made of asphalt

Based on table 1 then conducted data collection to determine the value on each indicator that the results are displayed in table 2 below. For example, in variable 43 the availability of Rural Credit Agency (RCA) based on the criteria indicator choice is worth 1 if the Outside village RCA is > 6 km, it is worth 2 if the RCA outside the village is 4.1-6 km, it is 3 if the RCA outside the Village is 2 , 1-4 km, is worth 4 if the outer RCA of the village is 1-2 km away and is worth a maximum of 5 if there is a rural bank in the village. Based on the results of the survey team found that Tepas village has a RCA, so it will be given a maximum value of 5 as shown in table 2.

Table 2. Results of indicator filling in the variable of economic resilience.

No	Indikator	1	2	3	4	5
35	There is more than one type of economic activity of the population					Y
36	Population access to trade centers (shops, permanent markets)					Y
37	There is a trading sector in the settlements (small shops and minimarkets)					Y
38	There is a post office and logistics services	Y				
39	Availability of public accounting agencies (government and private)		Y			
40	Availability of Rural Credit Agency (RCA)					Y
41	Access the population to credit				Y	
42	The availability of people's economic institutions (cooperatives)					Y
43	There are restaurants, restaurants, hotels and lodging					Y
44	There are modes (public transport, outer route, hours of operation)		Y			
45	Roads that can be traversed by 4 or more wheeled motor vehicles				Y	
46	Quality of Village Road (widest road in village with asphalt, gravel, and soil)					Y

Using the formula above and to determine the EI index that can be categorized as advance economy index resulting EI value of 0.800

$$EI = \frac{\Sigma \text{Indicator } X}{\text{Maximum Value } X}$$

$$EI = \frac{\Sigma \text{Indicator } X_{35} + X_{36} + \dots + X_{46}}{5 \times 12}$$

$$EI = \frac{\Sigma 5 + 5 \dots + 5}{60}$$

$$EI = 48/60$$

$$EI = 0.800$$

From the existing assessment, detailed analyzes of site explanations and supporting documentation are made. The following is an Village Index assessment analysis (DVI) of each rating on the EI. Economic activity is an activity undertaken by humans to meet the needs of everyday life. In Tepas village, there are seven types of economic activities of the population. These activities are Farmers, Farmers, Traders, Laborers, Village Devices,. Because there are 7 (more than 5) types of economic activities of the residents, the Village Tepas get a value of 5.

In Tepas village there is a trading center in the form of a shop and a market. In Tepas village there is one store building store. While the market located in Tepas Village is Randuasri market. Randuasri Market is only open 2 times a week. Based on the Parameter Index of Village Building Table, because there is a trading center in the form of shops and markets, then the village Tepas given value 5 in this section. Figure 3 shows the situation of the Randuasri market in Tepas village.



Figure 3. Randuasri market, a trading center in Tepas village

In Tepas Village there is a trade sector in the form of stalls around residential areas. Based on the Parameter Parameter Table Establish Building Table because there is a trading sector in the settlement, then given 5 points. Post Office is a facility to serve in mail or package delivery. In Desa Tepas there is no Post Office. The nearest Post Office of Tepas village is 7 kilometers from Tepas Village, in Kesamben. Based on the Parameter Parameter Index of the Build Village because there is no post office in Tepas Village and the distance from Tepas Village to the nearest post office is 7 kilometers, it is given 1 point. Public banking institutions are located 4 kilometers from the village center. The nearest available banks are BRI and BPN. With reference to the existing parameters, 4 kilometers is given a score of 2. The Rural Credit Agency (RCA) is a bank financial institution that accepts deposits only in the form of time deposits, savings deposits, and / or other equivalent forms and disbursed funds as RCA business. RCA can be found within Tepas Village location. Villagers do not have to go outside the village to apply for credit. Here is the RCA documentation available in Tepas Village with the location of Rural Credit Agency (RCA) that is near the center of the village, the access of credit for the villagers is easy. A cooperative is an economic organization owned and operated by an individual for the common good. The cooperative is based on the principle of the people's economic movement based on the principle of kinship. With reference to existing parameters, this variable is given a score of 5, ie there is a cooperative in the village. This facilitates the savings and loan activities of citizens. The cooperative is located beside the village hall. Here is the cooperative documentation. Inside the village there are several food and beverage stalls. There is a coffee shop 1.5 km from the village hall. In addition to providing coffee, the coffee shop provides a heavy meal menu. In addition, there is a shaved ice shop that is only open until noon is located not far from the coffee shop. Public transport of the village is available for use by the public. However, the frequency of arrival of public transport is rarely and volatile. Within a period of one week, shuttles only come 2-3 times. Access of 4 or more-wheel vehicles is considered easy because the width of the main streets in Tepas Village can accommodate two cars at once. However, in certain streets can still

be found a narrow road (not enough to pass two cars at once).



Figure 4. One coffee shop in Tepas village

The majority of roads in Tepas village have used asphalt. Starting from the village hall location to several remote locations in a radius of 5 kilometers from the village hall. However, not a few roads that have been eroded asphalt. At 6 kilometers from the village hall there is a road in front of housing unpaved residents, still using gravel and soil.



Figure 5. Asphalt road and partially gravel-land in Tepas village

3.3. Recommendations for Increased Resilience Economics

Based on the calculation of EI there are several indicators that must be improved to improve economic resilience in Tepas village. Some of these indicators are post office and logistic services are still very far > 7 km, the location of banking institutions is still far 4km, and the mode of transportation that only operates 2x a week. It also found several segments of the entrance of the alley that is still not asphalt (pebbled). Certainly, still added by other factors in achieving economic success, such as cultural cropping, local education, information technology (internet network) and the belief in village chiefs.

Based on further observations found also high security and juvenile delinquency, so that data disrupt economic resilience. In addition, low population literacy also affects the availability of skilled and reliable labor. To achieve better economic resilience, then there are some recommendations, including:

- Procurement of mail / package to accelerate the economic mobility of local products to consumer areas, such as chicken, milk, and vegetables.
- Procurement of transport fleets, in addition to reducing the number of motorcycle accidents, is also very useful for economic mobility either services or in the form of products
- Improved internet / mobile phone network is more stable to spur e commerce, because until now there has not been at all.
- Improved village security to better ensure business for local villagers.
- Improving the quality of the skills of the population such as training and reading room to provide skilled manpower.

4. CONCLUSIONS

There are several conclusions that can be taken from this research, including:

1. This research has succeeded in identifying variable and indicator of economic resilience in Tepas village with value of EI = 0800 or advanced in economic field.
2. The achievement of advanced EI is supported by the diversity of business,

the market as a meeting of sellers and buyers, the existence of village and road cooperatives that can be easily passed by the transportation fleet.

3. There are several activities that need to be done to strengthen economic resilience into an independent economy i.e., internet network, street quality, security, skill / education of citizens and post office as a means of delivering the products of the village.

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