



The Role of Village-Owned Enterprises (BUMDES) for The Village Community Economy

Irim Tiara Puri¹, Khoirunurrofik^{2✉}

Faculty of Economics and Business, Universitas Indonesia

Article Info

History of Article

Received October 2020

Accepted December 2020

Published February 2021

Keywords:

BUMDes, village fund,
village development,
economy

Abstract

Regional disparities between rural and urban areas in Indonesia are still being an important issue in the economic development. The government has carried out an economic stimulus in the village, one of them is through the Village Fund program for village development. One of the potential positive effects of implementing the Village Fund in Indonesia is creating a local economic institution that is expected to be able to develop the competition between villages through Village-Owned Enterprises (BUMDes). This study aimed to find out the empirical evidence whether BUMDes, as one of the programs driving the village economy affected the welfare of rural communities by looking at the differences in the improvement of the village economy. This study used BUMDes and Village Potential (Podes) data in 2014 and 2018, and Village Fund Allocation as a proxy for economic activity at the village level by using the econometric model approach of Propensity Score Matching and Difference in Difference with a fixed effect model. The results showed that villages that had BUMDes gave a greater effect than the ones which did not have BUMDes in improving the economy of the village community.

INTRODUCTION

The development of Village, especially in the developing country no longer becomes the development subject done by central government since they put it on priority (Boonperm, Haughton & Khandker, 2013; Sarkar, Guptay & SenGuptaz, 2013; Zuhdiyaty & Maryunani, 2019). One of the objectives way is to raise the welfare of rural communities through the development of socio-economic and the improvement of public services so that the rural communities are able to out of poverty (Park & Wang, 2010; Prabowo, 2014; Srijeketi, 2018). One of the sustainable developments in the village economy is through the Enterprises the villagers run and how they manage the potentials of the village. The researches discussing the benefits of various village Enterprises were carried out to find out the success in driving the economy, especially in the agricultural sector as basis of rural communities. Moreover, raising the welfare of rural communities was possible to do to overcome the existing problems (Sarkar et al, 2008; Steiner & Teasdale, 2017; Korsgaard, Müller & Tanvig, 2015; Richter, 2019; Shuang, Ji-heng, Bing & Xiao-wen, 2015; Prabowo, 2014; Zuhdiyaty & Maryunani, 2019; Srijeketi, 2018). However, the emphasis of these researches was measuring the Enterprises specifically, not aggregatly and the mixed methods of qualitative and quantitative with simple measurements were applied. There has been few researches focusing on the village Enterprises measured as a whole for the existing villages since the researchers focused on a certain scope of village; besides, the availability of aggregate data were not free-accessed.

In Indonesia, before Law no. 6 of 2014 regarding villages was issued, the villages were used as the development object by the government in which its intervention obstructed the creativity and innovation of rural communities in carrying out the economic activities. Based on this problem, Law no. 6 of 2014 is taken as a solution on the development of rural in Indonesia. Currently, the villages played as the main actor or subject in the village

development by adjusting the needs of the community, it is able to bring the underdeveloped village into the developing and independent one. The villages in Indonesia need a new platform to stimulate and encourage its economy through local economic institutions which is fully managed by the communities. The existence of village economic institutions should be based on what the communities want and need by considering its potentials. The Indonesian government supports the establishment of Enterprises in every village through the priority program of Village-Owned Enterprises (BUMDes) as one of the village economic institutions and the driving force on the economy of rural communities in sustainable manner (Prabowo, 2014; Zuhdiyaty & Maryunani, 2019; Srijeketi, 2018).

Prabowo (2014) in his research implemented a community-based approach (investigation) with Forum Group Discussion (FGD) model, interview, observation, and household survey to measure the existence of BUMDes for the reduction of poverty in sustainable manner. This research took place in Bleberan village, Gunung Kidul, Indonesia. The results of his research revealed that various assistance programs devoted to the regions and provinces in reducing poverty were not effective. However, the existence of BUMDes established and managed by community groups as social Enterprises was able to empower the rural communities out of the poverty in sustainable manner. In line with Srijeketi (2018) who used qualitative approach, her research pointed out that the villages which ran Enterprises became the new economic forces of rural development in Indonesia through BUMDes. The objective of village Enterprises was not only as a mediator on the central government funds but also as a facilitator to promote the rural economic activities properly. Zuhdiyaty & Maryunani (2019) mentioned the interesting facts through the use of Sustainable Livelihood Approach (SLA) method and they conducted a case study on BUMDes Kalipucang, Pasuruan, Indonesia. They found out that the BUMDes formation modal was taken from the village potentials

covering natural capital, physical capital, human capital, social capital, and financial capital. The strongest capital referred to the financial as the velocity of money in the village was quite high, whilst the human capital was considered weak as there were many less-educated people. It means that there must be supports given by the human resources in managing and strengthening BUMDes so that it obtained the community welfare through economic improvement. Suriadi, Mahalli, Achmad, & Muda (2015) by using Cost Benefit Analysis (CBA) approach and Strength Weakness Opportunities and Threats (SWOT) analysis revealed that the formation of two BUMDes in North Sumatra region represented the actual results on the institutional strengthening activities which were able to empower and improve the economy through freshwater fishing Enterprises. It covered raising the village income, the potential of village development according to the community needs and being the main economic growth and village equity. BUMDes was formed by mapping the village potential, then the Enterprises analysis was carried out to observe its feasibility and sustainability of the selected village Enterprises.

Steiner & Teasdale (2017) also did a research by interviewing two rural areas in Scotland, they found out that rural social Enterprises were potential to enable the integration in solving the local problems at the local level. Social Enterprises improved and achieved the economies of scale in collaboration with the community groups, companies and governments. The proper guidance and support, the challenges and rural needs could be taken as the opportunities in developing the social Enterprises so that the welfare was raised. The research also showed the positive effect of social Enterprises in community economic resilience through the village income, provided the added value, and built the cohesion among the community groups. Richter (2019) who conducted a research in rural areas of Austria and Poland stated that rural social Enterprises were not only able to mobilize ideas, resources and cooperation of the outsiders for their own

benefits but to develop their rural areas. Social Enterprises gave contribution to rural changes and welfare.

This research focused on the empirical evidence on whether or not the village Enterprises implemented by the government through BUMDes brought an effect on the economy of rural communities as measured through economic activities by using the Indonesian panel dataset in 2014 and 2018. Specifically, BUMDes was considered successful if the research was carried out in depth in one village, in which BUMDes already had many types of Enterprises in the field of social, production and trade, and joint ventures. So that the results must have positive effects on the village community. It obtained the different results if the researchers were able to measure in aggregate manner by having a lot of observations over a period of time, then it was possible to find out whether or not the establishing BUMDes affected the economy of the community as a whole.

BUMDes was able to give positive or no effect on the village economy, depending on the type of Enterprises being run. It affected positively when BUMDes had types of Enterprises which was able to drive village economic activities, such as the types of social, agricultural, intermediary and joint ventures (Sarkar et al, 2008; Steiner & Teasdale, 2017; Korsgaard, Müller & Tanvig, 2015; Richter, 2019; Shuang, Ji-heng, Bing & Xiao-wen, 2015; Prabowo, 2014; Zuhdiyaty & Maryunani, 2019). Whilst BUMDes brought no effect or its existence was disadvantageous if it was used as a tool to get the grant assistance from the central government and it made the rural communities being more in independency like on savings and loan Enterprises (Srirejeki, 2018). This research argued that BUMDes as village-owned Enterprises improved the economy of rural communities when they had productive Enterprises. Some BUMDes did not have any Enterprises or theirs were just indicated by using signboards and even if there were Enterprises, they were only savings and loan, rental, and intermediary. It became an obstacle in

managing the village Enterprises, in which the villages did not get any advantages even though they should have been able to innovate and develop with BUMDes (Budi, 2018; Tashandra, 2016).

This research perfected the previous research (Prabowo, 2014; Zuhdiyaty & Maryunani, 2019; Srijeki, 2018) whose intention was to measure the effect of village Enterprises through BUMDes on the economy of rural communities in Indonesia focusing on the village scale in aggregate. This research used Village Fund Allocation as a proxy in establishing BUMDes (Boonperm, Haughton & Khandker, 2013). This approach was used in recent research on fund allocation from the central government to rural development (Boonperm, Haughton & Khandker, 2013; Watts et al, 2019). This research was intended to evaluate the effect of the existence of BUMDes in villages, since there has been no research on BUMDes. The analysis unit of this research covered all villages in Indonesia by combining 2014 and 2018 Potential Villages (Podes) dataset with the BUMDes data per 2018 and the Village Fund as the main control. Measuring the level of economic in rural communities caused the unobservable heterogeneity problems in which it caused the selection bias; thus, this research selected the combination of PSM and DID to overcome the problem of selection bias (Khandker, Koolwal, & Samad, 2010).

RESEARCH METHODS

This research used various data sources, including the BUMDes data regulated in the PDPTT Village Regulation No. 4 of 2015 and the Village Funds of 2018 from the Ministry of Villages of PDPTT. The BUMDes data per 2018 had observed 45,854 villages which ran BUMDes, the BUMDes name of each village, the year of establishment based on village regulations, and the type of Enterprises run by BUMDes. After doing the observation, there were some identical data so that one of them must be discarded. The final result on the number of BUMDes was as many as 45,559 villages. The Village Fund Allocation data

included the amount of allocation given to 74,957 villages in 2018. Meanwhile, PAD data were taken from the APBDes of each village.

Besides the data taken from the Ministry of Village of PDPTT, the data used in this research were the data of Village Potential in 2014 and 2018 published by BPS. The 2014 Podes data were used as the base-year data as it referred to the establishment of BUMDes in the PDPTT Village Regulation No. 4 of 2015, whilst Podes 2018 data were used to evaluate the condition of the latest villages, in which the latest data from BPS were Podes 2018. Podes 2014 data had observed 82,190 villages/sub-district throughout Indonesia, while Podes 2018 data had 83,931 villages/sub-district.

The 2014 and 2018 Podes data were combined by omitting the area observation of areas other than villages, covering sub-district and UPT/SPT. They matched 72,285 villages. Furthermore, 45,559 village BUMDes data were combined with 2014 Podes data as the base-year prior to the BUMDes policy and 44,594 villages were matched. Further procedures were carried out to process the data according to research needs. In the end, the number of observations used in this study was 69,116 villages.

The variables used in this research were the dependent variable, treatment, and control. The dependent variable consisted of the existence of micro and small industries, kospin, and saprotan kiosks, in which each indicator described the type of BUMDes Enterprises in the village economic activities. The variables micro and small industry, kospin, and saprotan kiosks were BUMDes Enterprises types in productive economic activities (Suriadi, Mahalli, Achmad, & Muda, 2015; Zuhdiyaty & Maryunani, 2019). Savings and loan cooperatives were used based on the type of Enterprises generally run by BUMDes (Suriadi, Mahalli, Achmad, & Muda, 2015; Prabowo, 2014; Srijeki, 2018). The dependent variable for the existence of economic activity in the research was a dummy variable, with the value of 0 if there was no economic activity or 1 if there was economic activity. Meanwhile, the

village income was used as the main thing in seeing the independence of the village.

The treatment variable was the policy intervention covering the establishment of BUMDes in accordance with the PDPTT Village Regulation No. 4 of 2015 concerning the Establishment, Arrangement and Management, and the Dismissal of Village-Owned Enterprises. The intervention variable was a dummy variable whose value was 0 if the village did not have any BUMDes and 1 if the village had BUMDes. Meanwhile, the control variable referred to the village characteristics was used as the basis in village sampling. The village characteristics as the control variable covered the geographical aspects, involving islands, forests and sea. The employment characteristics covered the agricultural sector, human resources, and the economic aspect, in which the main control was the allocation of Village Funds from the center (Steiner & Teasdale, 2017; Boonperm, Haughton & Khandker, 2013). In addition, banking and credit were also used to see the relationship of capital for village Enterprises (Ulsrud et al, 2018). The control variable was taken from 2014 and 2018 Podes data. In addition, in finding out the effect of BUMDes on the income received by the village, this research also used a dummy variable for the existence of BUMDes which was 1 if the village had BUMDes and 0 if the village did not any, and the variable number of Enterprises owned by BUMDes.

This research used a quantitative approach to evaluate the policy effect of PDPTT Village Regulation No. 4 of 2015 concerning BUMDes whose main techniques used were *Propensity Score Matching* (PSM) and *Difference-in-Difference* (DID). These methods were combined to determine the effect of an intervention (treatment), covering BUMDes, on the outcomes as it referred to the objective of BUMDes establishment itself towards the village community by focusing on the similarities in the characteristics of two samples. The use of DID main method in this research was to determine the effect of BUMDes establishment on the economic activities of rural

communities in Indonesia. The combination of PSM and DID has brought success in obtaining observable and non-observable characteristics with constant assumptions all the time (Van de Walle, 2009; Khandker, Koolwal, & Samad, 2010).

The following is the model used to see the effect of BUMDes on village economic activities:

$$Y_{it}^* = \alpha_i + \beta T_{it} + \rho t + \gamma (T_{it} \cdot t) + \sum_{j=1}^n \beta COV_{it} + \varepsilon_{it} \dots \dots \dots (1)$$

In which Y_{it}^* was the outcome variable of economic activities, covering micro industry, kospin, and saprotan kiosks; α_i was an intercept; T_{it} was the dummy treatment variable of BUMDes (0 = did not have BUMDes and 1= have BUMDes); t was the time dummy variable (0 = 2014 and 1= 2018); $T_{it} \cdot t$ is the interaction between dummy treatment variables and time; COV_{it} was a control variable of village characteristics; ε_{it} was an error term; β was the coefficient of the dummy treatment variable; ρ was the coefficient of the time dummy variable; γ represented the average influence of the BUMDes establishment policy on economic and village activities; i was a cross-section (village); and j was the j^{th} control variable.

Furthermore, in finding out the effect on the existence of BUMDes on PAD, the Ordinary Least Square (OLS) Pooled model was used as follows:

$$PAD_{it} = \beta_0 + \beta_1 dbumdesa_{it} + \beta_2 jumlah_{usaha_{it}} + \varepsilon_{it} \dots \dots \dots (2)$$

In which PAD_{it} was the outcome variable of PAD ratio towards the income in village i and year t ; $dbumdesa_{it}$ was a dummy for the existence of BUMDes in village i and year t , in which the value was 1 if the village had BUMDes and 0 if it did not have any and $jumlah_{usaha_{it}}$ was the number of Enterprises owned by BUMDes in village i and year t .

The first step in the analysis was to determine the composition of village characteristics used in the PSM model to determine the similarities between village

groups that had BUMDes and did not. PSM was used as the matching data technique based on a strong assumption that there was no significant difference in the treatment and control groups that was not observed contributed to the intervention (Gertler et al., 2016). In fulfilling the assumption, the more characteristics used, the more left out observation. The researcher tried to know the accurate and capable characteristics in determining the BUMDes policy by using PSM. This method was considered appropriate if it can determine the characteristics that able to influence the observation in a program (Khandker, Koolwal, & Samad, 2010). The group resulted from PSM was villages that had and had no similar BUMDes characteristically. The PSM equation showed $P(X) = \Pr(T=1|X)$, in which the village group that had no BUMDes (P) was equal to the village group that had BUMDes ($T=1$) on a probability basis in an intervention based on the X characteristic. Furthermore, to estimate the two groups, a probit model was used to generate the probability of program participation or propensity score. The same characteristics of the two groups will appear in the common support area. The wider the common support area, the better the result of matching. Then, balancing test was carried out to ensure that the average of each characteristic and propensity score for each quantile was the same.

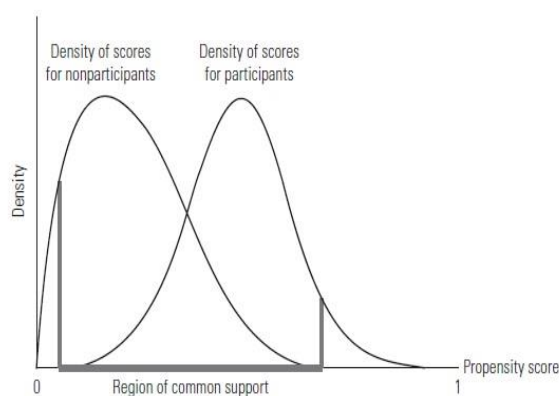


Figure 1. Area of Common Support

The analysis was continued by comparing the villages that had and had no BUMDes by using DID technique through estimating the

change size occurred before and after the intervention with parallel-trend assumption. The assumption was the characteristic that can influence the (un) intervened observation and the value remained constant over time. The heterogeneity problems that cannot be observed cause bias selection, therefore the combination of DID and PSM can overcome the problem only by using observation in the common support area (Khandker, Koolwal, & Samad, 2010).

The estimation of DID using data panel employed regression panel model of fixed-effect. This regression can maintain not only the unobservable time-invariant heterogeneity but also the heterogeneity of the characteristics observed over the two time periods. Each individual can have their intercept so that its uniqueness and heterogeneity can be maintained in the model. Even though it differs between individuals, the intercept will remain constant over time; this is what is meant by the fixed-effect (Gujarati & Porter, 2012: 242).

Outcome Y_{it} can be estimated on *treatment* T_{it} by using covariate X_{it} that has time variation, and individual's heterogeneity that is not observed by time η_i which can be correlated with the treatment and other unobserved characteristics ε_{it} (Khandker, Koolwal, & Samad, 2010).

$$Y_{it} = \phi T_{it} + \delta X_{it} + \eta_i + \varepsilon_{it} \dots \dots \dots (3)$$

Any change in time causes:

$$(Y_{it} - Y_{it-1}) = \phi (T_{it} - T_{it-1}) + \delta (X_{it} - X_{it-1}) + (\eta_i - \eta_i) + (\varepsilon_{it} - \varepsilon_{it-1}) \dots (4)$$

$$\Delta Y_{it} = \phi \Delta T_{it} + \delta \Delta X_{it} + \Delta \varepsilon_{it} \dots \dots \dots (5)$$

However, there was a weakness in the fixed-effect model namely geographical variable such as island, seas and forest that is time-invariant. It means that it does not change all the time, so that after being estimated, it will be omitted due to the deviation taking process. As a result, we will not know how the micro-industry, kospin, and saprotan kiosks react to island, sea, and forest (Gujarati & Porter, 2012: 247).

RESULTS AND DISCUSSION

The existence of BUMDes as a micro business in Indonesia has long been regulated, and since constitution number 6 of 2014, the regulation of BUMDes has begun to be intensified. BUMDes is projected to become a new economic power in rural areas. The number BUMDes in 2018 reached 45.559 consisting of 30,264 BUMDes owning businesses and 15,295 BUMDes owning no businesses. BUMDes that had no business was caused by the village assistants who did not input the type of BUMDes that had been existed or BUMDes that had been established but had no business activities. Also, some BUMDes had been established but did not operate

Table 1. Estimation Result of Difference-in-Difference of the Existence of Economic Activities.

Variabel	Variabel Dependend		
	mikro	kospin	kios_sapro tan
	(1)	(2)	(3)
intersep (α_i)	0.688*** (0.0180)	0.138*** (0.0183)	0.377*** (0.0194)
<i>dummy tahun (t)</i>	- 0.030*** (0.0053)	0.009* (0.0054)	0.032*** (0.0057)
variabel interaksi ($T_{it} * t$)	0.007* (0.0039)	0.180*** (0.0040)	0.061*** (0.0042)

The number in parentheses is the standard error.
Description: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The impact evaluation of BUMDes program policy in this research was measured by using the PSM and DID methods. There were three steps in the PSM, namely determining the program participation model, balancing test, and matching the participants and non-participants (Khandker, Koolwal, & Samad, 2010). The estimation was carried out on 72,285 villages, in which 44,594 villages participated in the program or villages that had BUMDes in all

covariates. This estimation produced a propensity score or probability value of a village to become a priority village. Furthermore, the balancing test was carried out by testing the average similarity of propensity score and the average of each covariate in each quantile of the propensity score distribution. This test excluded 3,169 villages because it deemed not to have the same characteristics; the results can be seen based on the common area of support. Figure 4.1 shows the result of the balancing test by showing the intersection or overlap areas between the treatment and control villages (Khandker, Koolwal, & Samad, 2010; Gertler et al., 2016). The matching stage of the treatment and control groups would be discussed in the next estimation.

The DID estimation as the primary method to know the impact was carried out to obtain the amount of counterfactual value on the outcome variable (Khandker, Koolwal, & Samad, 2010). The outcomes of the two village groups that had the same characteristics were compared to the base-year period. The covariates were also included in the DID estimation to get the effect of BUMDes policy on outcomes. The fixed-effect test was conducted to control the unobserved village characteristics and the time-invariant, which can affect the outcome value. DID estimation was done to 72.285 villages that were similar in terms of *propensity score*. After the balancing test, there were 69.116 similar villages.

The positive DID estimation result on the BUMDes line *year or the interaction between treatment and time-invariant revealed that all dependent variables were positively affected by the existence of BUMDes. Three outcomes were significantly affected. Columns (1) to (3) in Table 1 presents the regression results on dummy variables with fixed-effect. This research found that the micro-industry variable had a yield coefficient of 0.007, with a significance level of 10%. In other words, the BUMDes in the villages increased the existence of micro and small industries by 0.7% greater than in villages that did not have BUMDes. The group of Small

and Medium Enterprises or *Usaha Kecil Menengah* (UKM) processes the products produced by village farmers, such as coffee, banana, and milk. UKM activities were one way to accelerate village economic growth and the people who were members of various types of UKM can promote their products to be marketed through BUMDes (Prabowo, 2014; Hutabarat & Pandin, 2014; Zuhdiyaty & Maryunani, 2019). UKM groups can supply agricultural products from farmers, process agricultural products, and promote the products with higher price. The existence of BUMDes can cut the sales chain of agricultural products from middlemen so that the price remains stable and maintain the farmers' well-being. The promotion of processed and packaged agricultural products can also increase a higher selling price (Suroso, Utomo, Hidayati & Puspitorini, 2019).

The kospin variable had a yield coefficient of 0.180, with a significance level of 1%. The existence of BUMDes in a village would increase the existence of Kospin by 18% greater than in villages that did not have BUMDes. The probability size of a savings and loan cooperative was in line with the BUMDes data, which had the most financial business classifications. Based on the number of BUMDes by 44,594, there were 16,915 BUMDes that had financial businesses including savings and loan cooperatives and credit. The existence of a savings and loan cooperative was expected to facilitate the community and groups in developing their products (Zuhdiyaty & Maryunani, 2019). However, these activities were less effective to develop sustainable business because the village community only wanted assistance or grants through cooperatives from the central government rather than having to make savings or loans which can later be used for the productivity of village communities (Srirejeki, 2018). Besides that, villages that had more Kospin and credit institutions were considered less efficient because the community would not use all Kospin and credit institutions in conducting savings and loans (Srirejeki, 2018).

Meanwhile, the saprotan kiosk had a probability of 0.061 with a significance level of 1%. With BUMDes in a village, the probability of the Village to have a saprotan kiosk is 6.1% higher than for villages that did not have BUMDes. The existence of stalls selling saprotan such as fertilizers, seeds, pesticides, and other agricultural tools in villages can be optimized through BUMDes because most people worked in the agricultural and plantation sectors (Zuhdiyaty & Maryunani, 2019). Saprotan kiosks were essential in productive village efforts to support agricultural intensification activities, such as distributing subsidized fertilizers to meet the needs of farmers at affordable costs (Suroso, Utomo, Hidayati & Puspitorini, 2019).

Table 2. Estimation Result for PAD

Variabel	Variabel Dependen PAD
intersep (β_0)	0.036*** (0.0006)
Dummy BUMDes (<i>dbumdesa_{it}</i>)	0.003*** (0.0050)
Jumlah usaha (<i>jumlah_usaha_{it}</i>)	0.002*** (0.0017)
Observasi	90.246
R-squared	0.0049

The number in parentheses is the standard error.

Description: *** p < 0.01, ** p < 0.05, * p < 0.1

Table 2 shows the estimation result of the existence of BUMDes and the type of business on village income. In the OLS Pooled analysis, the primary control variable was a binary variable that indicated the existence of BUMDes in each Village (1 = owns BUMDes, 0 = vice versa). The dependent variable was the ratio of PAD to village income. The estimation results showed that the increase in the economy of rural communities with the existence of BUMDes to village income as measured by the PAD ratio was significant by 0.3% for two years with a significance level of 1%. This result is in line with research conducted by Suriadi, Mahalli, Achmad, & Muda (2015) and Steiner & Teasdale (2017) that village businesses can

improve community welfare by increasing the village income. A significant positive increase also occurred in the number of businesses owned by BUMDes. The increase in the number of businesses run by BUMDes correlated with village income by 0.2%.

CONCLUSION

The purpose of this study was to empirically prove the effect of the BUMDes as a village business on the economy of rural communities. The Village Fund allocation or Alokasi Dana Desa was used as a central transfer proxy to the village economic development activities, and BUMDes was one of the priorities in the allocation of the Village Fund. The methodologies used to determine the estimation were the PSM model and DID fixed-effect model with panel data. BUMDes, as a village business had a positive effect on the existence of micro and small industries, Kospin, and saprotan sales kiosks. Villages with BUMDes provided a greater probability of having these facilities than villages without BUMDes.

This study provided consistent results regarding the existence of BUMDes that improved community welfare by increasing economic activity in a sustainable manner. Therefore, every Village that already had BUMDes but did not have business activities or villages that did not have BUMDes was expected to be able to map out the Village's potential so that be able to prepare business planning and manage adequate resource. Thus, the BUMDes formed was not just existing. Also, BUMDes that had financial businesses must have other or more productive businesses.

The existence of BUMDes as a village business improved the village community's sustainable economic. However, it needed to be re-evaluated to make the establishment and development of BUMDes remained beneficial for the village community. This research suggested that the establishment and management of BUMDes were focused on the capital, management structure, training or mentors of the entrepreneur association, the

products to be developed, and the marketing of the products produced.

REFERENCES

- Boonperm, J., Haughton, J., & Khandker, S. R. (2013). Does the Village Fund Matter in Thailand? Evaluating The Impact on Incomes and Spending. *Journal of Asian Economics*, 25, 3-16.
- Budi, K. (2018, 27 Agustus). BUMDes di Kabupaten Jayawijaya Diminta Pilih Unit Usaha yang Tepat. *Kompas*, p.2
- Gertler, P. J., Martinez, S., Premand, P., Rawlings, L. B., & Vermeersch, C. M. (2016). *Impact Evaluation in Practice*. The World Bank.
- Gujarati, D. N., & Porter, D. C. (2012). *Dasar Dasar Ekonometrika*. Jakarta: Salemba Empat.
- Hutabarat, Z., & Pandin, M. (2014). Absorptive capacity of business incubator for SME's rural community located in indonesia's village. *Procedia-Social and Behavioral Sciences*, 115, 373-377.
- Khandker, S. R., Koolwal, G. B., & Samad, H. A. (2010). *Handbook on Impact Evaluation: Quantitative Methods and Practices*. World Bank Publications.
- Korsgaard, S., Müller, S., & Tanvig, H. W. (2015). Rural entrepreneurship or entrepreneurship in the rural-between place and space. *International Journal of Entrepreneurial Behavior & Research*, 21(1), 5-26.
- Park, A., & Wang, S. (2010). Community-based development and poverty alleviation: an evaluation of China's poor village investment program. *Journal of Public Economics*, 94(9-10), 790-799.
- Prabowo, T. H. E. (2014). Developing Management System BUMDes (Village-Owned Enterprise) For Sustainable Poverty Alleviation Model. *World Applied Sciences Journal*, 30, 19-26.
- Richter, R. (2019). Rural social enterprises as embedded intermediaries: The innovative power of connecting rural communities with supra-regional networks. *Journal of Rural Studies*, 70, 179-187.
- Sarkar, S., Blaney, L. M., Gupta, A., Ghosh, D., & SenGupta, A. K. (2008). Arsenic removal from groundwater and its safe containment in a rural environment: validation of a sustainable approach. *Environmental science & technology*, 42(12), 4268-4273.
- Sarkar, S., Guptay, A., & SenGuptaz, A. K. (2013). Transforming the Arsenic Crisis into an

- Economic Enterprise: Example from Indian Villages. *Monitoring Water Quality: Pollution Assessment, Analysis, and Remediation*, 299.
- Shuang, W., Ji-heng, W., Bing, L., & Xiao-wen, Y. (2015). Analysis on Sustainable Development Management Model of Village Banks—Based on Bayan Rongxing Village Bank in Heilongjiang Province. *Journal of Northeast Agricultural University (English Edition)*, 22(4), 75-82.
- Srirejeki, K. (2018). Empowering the Role of Village Owned Enterprises (BUMDes) for Rural Development: Case of Indonesia. *Journal of Accounting, Management, and Economics*, 20 (1), 5-10. ISSN: 2620-8482
- Steiner, A., & Teasdale, S. (2017). Unlocking the potential of rural social enterprise. *Journal of Rural Studies*, 70, 144-154. <https://doi.org/10.1016/j.jrurstud.2017.12.021>
- Suriadi, A., Mahalli, K., Achmad, N., & Muda, I. (2015). The Applicative Model of The Village Owned Enterprises (BUMDes) Development in North Sumatera. *Global Journal of Arts, Humanities and Social Sciences*, 3, 48-62. ISSN: 2052-6369
- Suroso, E., Utomo, T. P., Hidayati, S., & Puspitorini, D. (2019). Development strategy of PALAS rice in Lampung Province. In *IOP Conference Series: Earth and Environmental Science* (Vol. 230, No. 1, p. 012003). IOP Publishing. <https://doi.org/10.1088/1755-1315/230/1/012003>
- Tashandra, N. (2016, 11 Februari). Aceh, Daerah dengan Jumlah BUMDes Terbanyak. *Kompas*, p. 5.
- Ulsrud, K., Rohrer, H., Winther, T., Muchunku, C., & Palit, D. (2018). Pathways to electricity for all: What makes village-scale solar power successful?. *Energy Research & Social Science*, 44, 32-40.
- Van de Walle, D. (2009). Impact evaluation of rural road projects. *Journal of development effectiveness*, 1(1), 15-36.
- Watts, J., Tacconi, L., Irawan, S., & Wijaya, A. (2019). Village transfers for the environment: Lessons from community-based development programs and the village fund. *Forest Policy and Economics*, 108(C), 1-1.
- Zuhdiyaty, N., & Maryunani, W. S. (2019). Analysis of BUMDes Strengthening For Community Welfare With The SLA Approach (Case Study Of Kalipucang Village, Tukur, Pasuruan). *International Journal of Scientific & Technology Research*, 8, 40-43.