Financial performance and impacts of village fund on post disaster rural economic development in Pidie Jaya-Indonesia

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Abstract. Village Fund is a tremendous budget decentralization scheme in Indonesia. The program has been showing its impacts, particularly in public infrastructure revitalization in rural areas since 2015. This study aims to examine the performance of Village Funds and their impacts on post-disaster economic re-developments. The descriptive statistic analysis was applied to secondary data derived from the 2015-2019 financial reports of 19 villages in Pidie Jaya (Aceh-Indonesia). This study shows that performance in terms of economic output is very poor. The Village Fund failed to generate the Original Village Income through the establishment of the Village Owned Enterprises (BUMDes).

1. Introduction

Rural development has been one of the main problems and priorities in the context of Indonesia's development planning for decades. Traditionally, labor migration, together with physical capital mobility, has been successfully implemented to combat poverty during the Suharto periods [1–3]. However, the formation of the Village Law No. 6/2014 is the most promising evidence due to the decentralization of budget planning and village empowerment programs in Indonesia. Some of the derivative regulations clearly state that Village Budget (Dana Desa) has been an effective tool for the government to narrow development gaps between urban and rural areas, to reduce poverty, and improve the rural economy [4–6].

The Village Fund was officially launched in 2015 with a total budget of IDR 20.76 trillion. The allocations continue to increase, accounting for IDR 46.9 trillion per 2016, IDR 60 trillion in 2017, and IDR 120 trillion in 2018. Until the end of 2018, new development consists of more than 95,200 kilometers of village roads; 914,000-meter bridge; 22,616 clean water connection units; 14,957 units of Early Childhood Education Facilities (PAUD); 4,004 units of Village Health Facilities; 19,485 units of artesian wells; 3,106 village markets; 103,405 drainage and irrigation units; 10,964 units of Integrated Health Centers (Posyandu); and 1,338 reservoirs [7].
According to Statistics Indonesia, Aceh Province is ranked sixth in terms of poverty levels in Indonesia for 2020. Although poverty assessments are mainly based on household expenditure, some may argue that Rp 73.8 Trillion Special Autonomy Funds may have been misallocated since the first disbursement in 2008. Subsequently, Aceh received the largest allocation of Village Funds among the provinces on Sumatra Island in 2018, with a value of IDR 4.4 Trillion distributed to 6,487 villages. For 2020, the allocation will increase significantly around Rp.5.5 trillion. This amount is the fourth largest allocation of Village Funds for provinces located outside Java. (Ministry of Finance, 2020). Lack of several key aspects such as accountability, experienced human resources, technology adoption, management planning, have contributed to wrong behavior and ineffective projects. The average use of Village Funds to support the establishment and development of *Village-Owned Enterprises* (BUMDes) in Aceh is still very small, at 6.73 percent per year. BUMDes itself is expected to produce economic activities in the form of home industries, capital loans, asset purchases, entrepreneurship training, and savings in rural areas [8] (Bank Indonesia 2018).

The underlying regulations of the BUMDes are Law No. 6 of 2014 and PP No. 43 of 2014 [4, 8]. Based on the regulations, the purpose of establishing BUMDes is to start up new businesses and support businesses that have already been developed in the community. Furthermore, the establishment of BUMDes is also an effort to increase the village's original income (PAD) and increase the capacity of the community in planning and managing rural development.

An M6.5 earthquake struck Pidie Jaya Regency of Aceh Province in Indonesia on December 7, 2016, at 5:03 am. The event has damaged 17,673 houses and caused 104 casualties, as well as 85,526 people were evacuated. Additionally, three main traditional markets where, namely Ulee Gle, Meureudu, and Trienggadeng markets were totally collapsed [9]. Agricultural and fisheries supplies from and to this Regency were stopped temporarily for at least 3 to 6 months afterward [10]. Historically, the Village Fund has been used mainly for developing physical infrastructure. A small portion of the funds was allocated for managerial, social, and economic aspects such as community empowerment, village officials training development, environmental sustainability projects, etc. By this structural design, poverty reduction, as well as post-disaster recovery acceleration programs through the agricultural economy activities in Pidie Jaya, seemed to be neglected. In fact, the use of the Village Fund to boost agricultural economy activities has been mandated in [11] on Guidelines for Technical Use Village Fund in Pidie Jaya Regency.

This study aims to measure the financial performance and management of the Village Budget and to analyze the use of Village Funds to accelerate the recovery after the earthquake. The Village Fund for disaster risk financing is permitted under the Ministry of Villages, Disadvantaged Regions, and Transmigration regulations related to the Village Fund priority program in Indonesia. Logically, the District of Pidie Jaya, as a region affected by the disaster, can implement these conditions and get financial benefits to accelerate the recovery process. One way to address this problem is to compare the performance of Village-Owned Enterprises (BUMDes) during the recovery period.

There are two research questions that will be examined. First, how is the financial performance and management of the Village Budget (APBDes) before and after the earthquake in 2016?. The performance to be measured is how the level of effectiveness, efficiency, independence, and growth of income in the study area. Second, what is the role and pattern of the utilization of the APBDes (especially the Village Fund) towards empowering the agricultural economy and developing the BUMDes in Pidie Jaya Regency?. Village financial performance is the level of achievement of work results in the field of village finance, which includes village revenue and expenditure using the financial system that has been determined through a legislative policy for one budget period. Measurement of financial performance is important to be able to assess the accountability of the village government in the management of village finances and set forth in the form of financial reports that aim to present information about the financial
position of the village government, the realization of the budget and show openness over resources
managed by the village government.

This paper is organized as follows: Section 2 presents the methods used in this study. Section 3
discusses the findings and discussion of results, which consists of three parts: 3.1 analysis of financial
performance in the APBDes structure; 3.2. the reasons for dependency on the Village Fund Village
Budget in Pidie Jaya Regency; 3.3. the relationship between the Village Fund and its use in agricultural
economic projects as a means of producing village income; 3.4. Pattern and role of BUMDes. Section 4
concludes.

2. Methods
The area of the study is in the Meurah Dua Sub-district, Pidie Jaya Regency of Aceh Province. This
district was severely damaged by the earthquake in 2016 and consisted of 19 villages. The objects in this
study are all sources of funds obtained by the village, whereas the scope of this study includes community
economic empowerment related to the allocation and use of Village Funds in relation to the acceleration
of post-disaster recovery since 2016. The secondary data in this study are five years of panel data from
2015-2019, including Village Funds, Village Fund Allocation, Village Original Income, BUMDes, which
were obtained from Villages Financial Reports in the Meurah Dua subdistrict office and the Pidie Jaya
Village Empowerment Board.

Our first analysis is to measure the financial performance of the Village Revenue and Expenditure
Budget (APBDes) before and after the earthquake in 2016. The key indicators apply several ratios,
including effectiveness, efficiency, independence, and income growth ratio (the ratios are explained in the
appendices). Our second analysis is to identify the relationship between the Village Fund and the post-
disaster economic empowerment program for the community since 2016 in the Meurah Dua Subdistrict,
Pidie Jaya, Aceh Province. The correlation is measured by the level of village dependence on the Village
Fund, an overview of the structure of the Village Fund Allocation and Village Original Income,
empowerment of the agricultural economy in the Village Fund in Meurah Dua District. Whereas to see
the pattern of the utilization of APBDes to BUMDes and the role of BUMDes in Pidie Jaya Regency,
quantitative analysis using similar ratios was used with the variable number of APBDes channeled for
BUMDes funds and BUMDes contributions in PAD.

3. Result and discussion
Village Fund (DD) program is expected to alleviate poverty through economic empowerment projects so
that it will have impacts on income generation as well as welfare improvement for the rural communities.
In general, however, this study shows a large amount of the Village Fund under the Village Budget
structure has not been giving significant impacts on village original incomes nor economic independence.
The summary of the findings is illustrated in figure 1 and will be discussed thoroughly in the following
sub-section.
3.1 Financial performance ratios: efficiency and income growth

The financial efficiency ratio is calculated from the total village spendings divided by the targeted revenue, and it is presented in percentage (the formula is presented in appendix A). The efficiency ratio illustrates how efficient the costs incurred to obtain the income received. Local government performance is categorized as efficient if the ratio is less than one or below 100 percent [12]. The result of the study shows that the efficiency ratio in the Meurah Dua District in 2015-2019 was 94% to 102%. This illustrates that the performance of villages is less efficient. This inefficient performance tends to result from wastefulness when calculating the use of financial allocations in carrying out all activities in the village administration, including village governance, development, and community empowerment that is not careful in calculating village financial capacity so that achievement of targets is not optimal. Similarly, other regions also indicated that the average village financial efficiency ratio is inefficient [13–15].

Growth ratio is useful to know how much the ability of the local government in maintaining success during the concerned fiscal year or budget periods. The growth ratio in Meurah Dua Subdistrict in 2016 reached 56.15% and decreased to 26.29% in 2017. The growth performed well since the ration is positive. The growth ratio decreased significantly in 2018 for up to -10.50%; then, it turned to positive at 28.82% in 2019. The decline in the income growth ratio is due to differences in the amount of income received by the village government each year in the Meurah Dua Subdistrict, such as Village Funds, Village Funds Allocation, and Provincial Transferred Funds.

Based on the results of the study, the 2015-2019 villages' financial performance in the Meurah Dua District was less efficient. This is necessary to increase efforts in the management of BUMDes in order to generate PAD. Additionally, appropriate management in allocating funds to avoid inefficiency in the village financial budget is a crucial issue. Financial performance based on the ratio of income growth fluctuates.

3.2 The level of dependency on the village fund

The Village Fund (VF) in each village is expected to play important roles in village development in accordance to the mandate of the Minister of Home Affairs Regulation No. 113 of 2014, which aims to correct development imbalances occurring in urban and rural areas nationally which are focused on poverty alleviation programs. Village funds must be able to contribute fully to the realization of the program.

The results of this study indicate that village incomes basically come from three sources, namely the Village Fund (transferred from National Budget), the Village Fund Allocation originating from profit-sharing funds between Sub-district and District, and the Original Village Revenue (PAD). The results
show that each village has an average APBDes ranging from IDR. 820 million to 860 million per year. On the other hand, the average amount of the Village Fund is IDR. 630 million per year and the Village Fund Allocation of 180 million per year (see appendix 4). The village income was more dominated by the proportion of Village Funds with an average of 77% to 78%, and the remaining portion was from the Village Fund Allocation. The significant proportion of Village Funds shows that the role of VF is very influential in rural development both in infrastructure and community economic empowerment. In other words, the Village Fund program will have significant effects on the sustainability of the whole rural development programs aimed at improving the welfare of rural communities, the quality of human life, and sustainable poverty reduction, both those that are already running and those that will be implemented.

In fact, the Village Fund is expected to be a stimulant fund for village development. Consequently, the Village Fund should trigger the establishment of productive programs at the village level, aiming sustainable income for the village, which in turn will create village independence in the long run. One example is the Village Owned Enterprises (BUMDes). Through BUMDes, the community is able to participate in producing products and services that will contribute financially to village income. Therefore the indicator of the success of the Village Fund should be measured by how much the Village Fund is able to increase the independence of the village.

The dependency of the Village Budget on the Village Fund was not in line with the improvement of Village Original Revenue. In the context of post-disaster recovery, the communities preferred options other than disaster-related projects based on economic rationale. Communities tended to choose programs that bring direct benefits, although the projects were not related to post-disaster recovery projects. [16] also found similar preferences of communities when selecting projects that are perceived to benefit the community as a whole. In [16] case, the collective benefits of conservation and reforestation are not broadly understood or valued by local communities. It plays a similar pattern in the context of post-disaster recovery projects in Pidie Jaya Regency.

3.3 General overview of vfa and vor structures in Meurah Dua district

The Village Fund Allocation (ADD) is one of the supporting funds that support the development coming from the Regency in the form of profit-sharing funds and general allocation funds. The importance of the allocation of village funds in terms of carrying out government activities and community empowerment became less significant after the Village Fund program. Like ADD, Village Original Revenue (PAD) has not yet made an important contribution to the revenue side of the APBDes structure. The difference with ADD, PAD should, in the last five years, be able to increase significantly with the Village Fund program.

However, the study shows that VFA and VOR haven't been managed well to improve villages’ wealth. One of the main factors is that productive programs to revive village assets owned in the form of physical, social, and cultural assets have not been well managed. These programs have not yet developed, so that they have not yet generated Village Original Revenues. On the one hand, it reinforces the results of research that the village’s dependence on the Village Fund is very high. On the other hand, the output of the Village Fund measured by the amount of PAD generated by programs sourced from the Village Fund has not been achieved.

3.4 Patterns on utilization of village budget (apbdes) in village-owned enterprises (BUMDes).

Based on the Guidance and Consultation Manual for Village Financial Management (2015), approximately 70% of the village budget is supposed to be allocated to the community empowerment sectors, including BUMDes. It can be said that BUMDes that are considered successful should be able to contribute to the village’s original revenue (PAD). Most of the BUMDes in the study area were formed in 2017 and are engaged in agriculture and animal husbandry. This study found that the allocation for BUMDes varies among villages. In 2017, the allocation was between 0 to 46% out of the Village
Budget. The pattern of the Village Budget utilization for Village-Owned Enterprises is generally channeled according to the needs of each village e.g., construction of cattle pens or soft skill training programs. In 2018, for example, the highest allocation for the BUMDes was 31.847%, then it dropped to 6.4% in 2019. On the one hand, figure 1 shows that, on average, the allocation of the Village Budget on BUMDes in 2017, 2018, and 2019 was 8%, 3%, and 2%, respectively. On the other hand, these BUMDes generated null percent of the village original income (PAD).

To sum up, the BUMDes were not well managed and became a priority to generate village income and empower the community. The BUMDes can be potentially developed through various businesses in Meurah Dua Subdistrict; however, several key businesses generally prefer to open business units independently. In addition, human resources were the main critical weaknesses of BUMDes management.

4. Conclusion
Rural development is one of the main focuses of long-term development planning in Indonesia. This development is realized through the improvement of rural public infrastructure, village governance, and the economic empowerment of rural communities supported by the Village Fund. This study concluded that the level of village dependence on the Village Fund is very large. On average, the proportion of Village Funds in the APBDes (income side) is 77 - 78%. Therefore the role of the Village Fund is crucial in the implementation of the main village development programs. However, BUMDes as a means of self-reliance in villages has only received an average portion of 5% of the total Village Fund over the past three years. Therefore, the Original Village Revenue (PAD) also has not had a significant impact on the income side of the APBDes structure.

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Appendix

1. Efficiency ratio

Efficiency ratio is a ratio that illustrates the ratio between the amount of costs incurred to obtain the income received. The performance of local governments is categorized as efficiency if the receipt achieved is less than one or below 100 percent. If the smaller the ratio is achieved it will illustrate the ability of the area the better. To analyze the efficiency ratio in financial management can be seen through a comparison between the realization of the expenditure budget with the realization of the revenue budget as follows:

\[
Efficiency = \frac{\text{Realized Village Expenditures}}{\text{Village Revenue Target}} \times 100\%
\]

In determining the criteria for efficiency ratio of village financial management which is also obtained based on assessment criteria set by the Ministry of Home Affairs through the Minister of Home Affairs Number 690,900,327 of 1996 concerning Guidelines for Evaluating Financial Performance with the following criteria:

| Efficiency Ratio Presentation (%) | Criteria          |
|-----------------------------------|-------------------|
| > 100                             | Not efficient     |
| 90 – 100                          | Inefficient       |
| 80 – 90                           | Efficient enough  |
| 60 – 80                           | Efficient         |
| < 60                              | Very efficient    |

Source: Kepmendagri No. 690.900.327/1996
2. Growth ratio

Growth ratio is useful to know whether local governments in the relevant fiscal year or during several budget periods, the performance of the budget experiences positive or negative revenue or expenditure growth. If income trends (trends) increase, the revenue growth is said to be positive. Vice versa, if the analysis of income growth shows a decrease then it means that income growth is said to be negative. The revenue growth in a given year (t) can be calculated using the following formula:

\[
\text{Th} t \text{ Revenue Growth} = \frac{(\text{Th} t \text{ Revenue} - \text{Th Revenue} \ (t-1))}{\text{Th Revenue} \ (t-1)} \times 100\% \tag{2}
\]

- \( \text{Th} t \) : calculated year
- \( \text{Th} \ (t-1) \) : previous year

Appendix 2

Tabel 2. Efficiency Ratio in Meurah Dua Subdistrict (2015-2019).

| Year | Realization of Village Expenditures | Realization of Village Revenues | Efficiency Ratio | Relationship Pattern |
|------|-------------------------------------|---------------------------------|------------------|----------------------|
| 2015 | 8,623,863,748                       | 9,193,963,748                  | 94%              | Less efficient       |
| 2016 | 13,852,391,003                      | 14,356,077,888                | 96%              | Less efficient       |
| 2017 | 17,996,856,684                      | 18,129,675,456                | 99%              | Less efficient       |
| 2018 | 16,501,514,611                      | 16,226,086,185                | 102%             | Not efficient        |
| 2019 | 20,262,712,878                      | 20,902,402,762                | 97%              | Less efficient       |

Source: author calculation (2020)

Appendix 3

Table 3. Income Growth Ratio in Meurah Dua Subdistrict (2015-2019).

| Year | Total income | Revenue Growth (100%) | Ability Criteria |
|------|--------------|-----------------------|------------------|
| 2015 | 9,193,963,748 | -                     |                  |
| 2016 | 14,356,077,888 | 56.15%                | Positive         |
| 2017 | 18,129,675,456 | 26.29%                | Positive         |
| 2018 | 16,226,086,185 | -10.50%               | Negative         |
| 2019 | 20,902,402,762 | 28.82%                | Positive         |

Source: author calculation (2020)
Appendix 4

Table 4. The average amount of APBDes, Village Funds, and Village Fund Allocations for (2015-2019) in Meurah Dua Subdistrict, Pidie Jaya Regency (in IDR).

| Village                | APBDes      | Village Fund (VF) | Village Fund Allocation (VFA) | VF/APBDes (%) | VFA/APBDes (%) |
|------------------------|-------------|-------------------|-------------------------------|---------------|----------------|
| Lhok Sandeng           | 825,098,198 | 638,698,245       | 186,399,953                   | 77            | 23             |
| Sarah Mane             | 886,223,142 | 683,338,133       | 202,885,009                   | 77            | 23             |
| Seunong                | 833,320,653 | 643,792,231       | 189,528,423                   | 77            | 23             |
| Lancok                 | 816,340,942 | 643,792,231       | 184,619,482                   | 79            | 21             |
| Meunasah Kulam        | 814,574,533 | 630,740,795       | 183,833,738                   | 77            | 23             |
| Meunasah Teungoh      | 815,886,968 | 631,529,409       | 184,357,565                   | 77            | 23             |
| Geunteng              | 815,184,808 | 633,008,955       | 182,175,853                   | 78            | 22             |
| Mns Bie               | 816,435,237 | 631,944,584       | 184,490,653                   | 77            | 23             |
| Mns Raya              | 826,419,665 | 638,654,438       | 187,765,227                   | 78            | 22             |
| Gp Blang              | 807,268,378 | 629,948,758       | 177,319,621                   | 78            | 22             |
| Blang Cut             | 814,055,591 | 631,737,235       | 182,682,356                   | 78            | 22             |
| Dayah Kruet           | 819,308,145 | 634,249,267       | 185,058,879                   | 77            | 23             |
| Dayah Usen            | 803,541,880 | 623,201,746       | 180,340,135                   | 78            | 22             |
| Mns Mancang Pante     | 950,151,394 | 626,570,423       | 181,805,494                   | 78            | 22             |
| Beureune              | 812,612,606 | 630,428,443       | 182,184,163                   | 78            | 22             |
| Beuringen             | 827,188,970 | 639,048,625       | 188,140,345                   | 77            | 23             |
| Mns Jurong            | 821,677,242 | 636,536,724       | 185,140,518                   | 77            | 23             |
| Buangan               | 829,697,323 | 642,581,697       | 187,115,625                   | 77            | 23             |
| Lueng Bimba           | 831,164,421 | 642,636,089       | 188,528,332                   | 77            | 23             |

Source: author calculation (2020)

Appendix 5

Table 5. Average Number of BUMDes in 2017 - 2019 in Meurah Dua District.

| No | Nama Desa          | BUMDes (2017) | BUMDes (2018) | BUMDes (2019) |
|----|--------------------|---------------|---------------|---------------|
| 1  | Lhok Sandeng       | 0.001         | 0.547         | 0.713         |
| 2  | Sarah Mane         | 0             | 7.647         | 1.956         |
| 3  | Seunong            | 2.358         | 0.582         | 2.934         |
| 4  | Lancok             | 0.472         | 0.599         | 1.681         |
| 5  | Meunasah Kulam     | 8.703         | 0             | 1.18          |
| 6  | Meunasah Teungoh   | 0.157         | 2.489         | 5.166         |
| 7  | Geunteng           | 0             | 2.39          | 0.384         |
| No | Nama Desa          | BUMDes (2017) | BUMDes (2018) | BUMDes (2019) |
|----|--------------------|---------------|---------------|---------------|
| 8  | Meunasah Bie       | 0             | 0             | 3.141         |
| 9  | Meunasah Raya      | 37.469        | 3.111         | 0.282         |
| 10 | Gp Blang           | 43.973        | 31.847        | 1.1           |
| 11 | Blang Cut          | 0.227         | 1.446         | 0.205         |
| 12 | Daya Kreut         | 0             | 1.892         | 2.401         |
| 13 | Daya Usen          | 0.16          | 1.876         | 2.749         |
| 14 | Muenasah Mancang   | 46.046        | 2.783         | 3.58          |
| 15 | Payah Beureune     | 5.438         | 2.346         | 6.432         |
| 16 | Beuringen          | 0.279         | 1.958         | 2.774         |
| 17 | Meunasah Jurong    | 0.127         | 0.698         | 0.975         |
| 18 | Buangan            | 0.126         | 1.882         | 2.828         |
| 19 | Leung Bimba        | 0.281         | 1.381         | 1.899         |

Source: author calculation (2020)