Mapping of Potential Village-Owned Enterprises (BUMDes) for Rural Economic Recovery during the COVID-19 Pandemic in Central Java, Indonesia

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Abstract. For several years the Government of Indonesia has been initiating the growth of Village-Owned Enterprises (BUMDes), economic institutions that manage the village's economic resources. The Central Java Provincial Government also provides incentives to establish BUMDes in most villages in Central Java. During the COVID-19 pandemic, some rural communities were affected, and the village economy stagnated. BUMDes is one of the village economic institutions that is expected to be able to drive the village economy in the era of the COVID-19 pandemic. This study aims to analyze the potential of BUMDes as a solution to handling the impact of the COVID-19 pandemic in rural areas, especially from an economic aspect in Central Java. This type of research is descriptive with the main qualitative approach assisted by quantitative (mixed method). The research technique used was a survey involving 337 villages. Respondents came from elements of village officials and BUMDes managers. The instrument used was through online media (google form). Data analysis used descriptive statistical techniques in the form of means and percentages. The conclusion of this study shows that BUMDes has the potential to play a role in economic recovery, but this function is not yet optimal. Because the business sector managed by BUMDes is not based on the village's superior potential, as well as the lack of a business development concept, weak human resource and capital capacity, and lack of cooperation.

Keywords: BUMDes, COVID-19 pandemic, rural, central java, economic recovery

1. Introduction

Several studies have shown that the COVID-19 pandemic impacts various social and economic problems. Social impacts include increasing poverty rates [1]; rising unemployment, violence, and crime cases tend to increase, changing patterns of community interaction, increasing panic and stress, and alienating people with the potential to transmit COVID-19 [2]. Economic impacts include economic contraction that affects all sectors [3]; layoffs, decreased production and imports, increased prices (inflation), decreased tourism sector, increased poverty, and decreased economic growth [4]. Poverty and unemployment increased because many companies laying off workers [5], where many places of business (factories, shops, and home industries) were forced to close [6]. The COVID-19 pandemic caused 15.6% of workers to be laid off (the majority aged 15-24 years), and the sectors most severely affected were construction, trade, restaurants and services, transportation, warehousing, and communications [7]. This condition is understandable because Indonesia's economy is dominated by
the informal sector, where Large-Scale Social Restrictions (LSSR) had a major impact on employment, especially workers in sectors that depend on "crowds". Social restrictions have an impact on sluggish market conditions, and people's purchasing power decreases, and the distribution of materials is hampered [8]. The community is faced with various problems of declining income, difficulties of jobs, but on the other hand daily expenditures, especially for health, tend to increase [9].

In Central Java Province, there was an increase in the poverty rate by 1.26% (around 440,500 people) from 10.58% (3,679,400 people) in September 2019 to 11.84% (4,119,930 people) in September 2020. The poverty rate in rural areas tends to be higher than in urban areas. The poverty rate in rural areas in September 2020 was 13.2% (2,229,440 people), an increase compared to September 2019 of 12.8% (2,077,150 people). This poverty rate in the urban was only 10.57% in 2020. In addition, the unemployment rate in Central Java also rose from 4.44 in 2019 to 6.48 in 2020 [10].

One of the impacts of the COVID-19 pandemic in rural communities is the loss of jobs, where many rural people who work in the urban area have to return to the village, some turn to the informal sector, and some unemployed because they are laid off from work in the urban area [11]. Social restrictions due to the COVID-19 pandemic harm the socio-economic quality, and income of rural communities, leading to an increase in poverty and underdevelopment rates [12]. In addition, the restriction policy also causes a decrease in the income of traders, fishermen, and farmers, because the selling price of their products is decreased [13].

The Indonesian government has made various efforts in handling COVID-19 from the economic, health, social, and various other sectors [6]. There are at least six programs namely; a) funding for handling COVID-19, b) business incentives, c) social protection, d) protection for MSMEs, e) labor-intensive projects, and f) corporate financing [14]. The village government also should handle the impact of the COVID-19 pandemic by involving the community [15]. One of them is by utilizing Village Funds to maintain the sustainability of small businesses in the recovery and economy in the village [16]. One of the experiences in Jekawel Village, Sragen Regency, Central Java, where the proper use of Village Funds can help village communities survive in the era of the COVID-19 pandemic [17]. Village Funds are focused on various community empowerment activities, appropriate social assistance, and Village Owned Enterprises (BUMDes) capital in the procurement of necessities, which are considered to be able to stabilize the economy of rural communities [17].

The key to economic recovery during the pandemic is survival at the individual levels and business entity levels, so efforts are needed to keep the people from collapsing, remain productive, and have adequate income, and businesses can continue to run [18]. Smallholders farmer are highly dependent on the food business network system and MSMEs for marketing, input supply, and credit. If this system is disrupted, it will have a significant impact on small farmers [19]. Overcoming the impact of the COVID-19 pandemic in rural areas is to rely on people's businesses, MSMEs, cooperatives, and BUMDes that manage resources with local wisdom [20].

BUMDes is an economic business institution that is managed by the community and village government to strengthen the local economy and is formed based on the needs and potential of the village [21]. According to the Regulation of the Minister of Villages, Development of Underdeveloped Regions and Transmigration No. 4 of 2015, BUMDes is a business entity whose capital is wholly or most of the capital owned by the Village Government through direct participation originating from separated village assets to manage assets, services, and other businesses for the greatest welfare of the village community [22]. The objectives of BUMDes include improving the village economy, optimizing village assets for community welfare, increasing community efforts in managing the village's economic potential [23]. So far, BUMDes are often considered to have failed in carrying out commercial economic functions because the capacity of village heads and managers has not been optimal [24].

In the COVID-19 pandemic era, BUMDes is expected to be one of the drivers of the economy and improve social welfare in the village. BUMDes is an institution for socio-economic empowerment of the community, which is expected to be able to act as a social enterprise, run a business and the profits will help overcome poverty [25]. One of the social roles that BUMDes can play is providing basic food in the village [24,26], as well as increasing village cooperation with other institutions such
as companies, other BUMDes, and universities [26]. In addition to these social functions, the business function carried out by BUMDes in the context of economic recovery is to become a partner of MSMEs as distributors of their products and become a partner of farmers to distribute agricultural products and become a supplier of local food needs [16].

Some of the incentives needed for BUMDes include capital facilities through banking, as well as the establishment of education and training centers for human resources of BUMDes [26]. The village government can also allocate more Village Funds for BUMDes capital to be able to generate a productive economy in rural areas [11]. Based on this background, there is hope for BUMDes to help the socio-economic recovery of people in rural areas. This study aims to identify the impact of the COVID-19 pandemic in rural areas and analyze the potential of BUMDes as a solution for handling the impacts of the COVID-19 pandemic in rural areas, especially from the aspect of the type of business, the suitability of the type of BUMDes business with the economic potential of villages in Central Java, as well as obstacles and improvement efforts required.

2. Data and Methods

This research is descriptive models, with a qualitative for the main approach, assisted by a quantitative approach (mixed method). The research technique is a combination of surveys using questionnaires with online media (google form) conducted throughout Central Java, as well as field studies using interviews with key informants in 13 regencies (Figure 1). The Google form was compiled using variables and indicators based on a study conducted by BPS in 2020 [27]. The survey sample was 337 villages selected at random (random sampling), representing all regional characters in Central Java. Interviews were conducted with informants who came from elements of village and sub-district official in 13 regencies (district) of the research location, namely Grobogan, Wonogiri, Wonosobo, Batang, Tegal, Klaten, Pati, Kebumen, Purworejo, Temanggung, Semarang, Demak, and Magelang.

Figure 1. Study Area

The selection of field locations took into account the regional representation in Central Java Province, namely the northern part (north coast), the middle part, the southern part (south coast), and the western and eastern regions, and also based on the characteristics of the area, both lowlands, hills, and mountains. The survey sample in this study consisted of 337 villages from 6 areas in Central Java Province, namely the Banyumas area as many as 124 villages, the Pati area 90 villages, the Solo Raya area 67 villages, the Pekalongan area 38 villages, the Kedu area 14 villages, and the Semarang area 4
villages. Qualitative analysis from data interviews was conducted using a technique developed by Miles & Huberman, in the form of a simultaneous process between data reduction, data presentation, and conclusion drawing/verification. Analysis of quantitative data from survey results using descriptive statistical techniques in the form of mean and percentage. This quantitative analysis is used to help explain the field findings. The research was conducted for 5 months from August to December 2020.

3. Results and Discussion

3.1 Result

This sub-chapter will be described the results of data collection through google forms and in-depth interviews, namely (a) The impact of the COVID-19 pandemic in rural areas and its recovery efforts, (b) Types of businesses in the village, (c) Status and classification of BUMDes businesses, (d) The suitability of the type of BUMDes business and the village's economic potential, and (e) Obstacles to the development of BUMDes.

a. The impact of the COVID-19 pandemic in rural areas and its recovery efforts

Based on the results of data collection through google forms and in-depth interviews, it was found that according to respondents and informants, almost all sectors were affected, most villages (331 villages or 98.22%) felt the impact of the COVID-19 pandemic while 1.78% did not feel the impact. According to informants, the sectors most affected are equipment rental services, parties, vehicles, entertainment services, tourism, transportation services, and creative industries. Some sectors that can survive include agriculture, trade, livestock and fisheries, food processing, various services, food stalls, and micro/small industry. According to the Secretary of the Jakenan Sub-district, Pati Regency, almost all sectors in rural areas have been affected by the pandemic, the worst being the services, rental, and arts/entertainment sectors, and agriculture that can survive. Agriculture can survive because it represents the livelihood of many Indonesian people, especially in rural areas, this sector has been able to survive because it is deeply rooted in the lives of some Indonesian people [28]. Meanwhile, according to the Head of Candisari Village, Bansari Sub-district, Temanggung Regency, that food crop agriculture is not too affected, but horticultural agriculture is very affected, where the selling price of horticultural products is lower than the cost of production.

In the marketing aspect of basic needs, in several villages (6 villages or 1.78%) all goods price are increased, while in 35 villages (10.39%) an increase in almost all goods, as for 1,225 villages (66.7%) there was an increase in only a few types, and in 71 villages (21.07%) there was relatively no increased price of all goods. The distribution of necessities in some villages was quite hampered (70 villages or 20.77%), while in 150 villages (44.51%) it was slightly hampered, and in 117 villages (34.72%) it was not hampered.

The COVID-19 pandemic increased the poverty rate in most of the research villages, of which 303 sample villages (89.91%) experienced an increase in poverty rates. The COVID-19 pandemic also affected increasing unemployment, in which 324 sample villages (96.14%) experienced an increase in the number of unemployed. Unemployment comes from immigrants who return to the village as well as people who live in the village and lose their jobs or are temporarily laid off. There were 96,543 people affected by the COVID-19 pandemic in the sample villages, of which 34,213 people were immigrants who returned to the village and 62,330 people living in the village who lost their jobs or were temporarily laid off. Of this number, up to August 2020, there were 63,299 people (50.45%) who were still unemployed, 35,856 people (28.58%) worked odd jobs, 13,003 people (10.36%) were entrepreneurship, and 13,317 people (10.61%) were working again.

To restore the village economy, some villages have attempted to restore superior products. A total of 177 villages (52.52%) have made efforts to restore the leading village sector, while another 160 villages (47.48%) have not made special efforts to restore the superior product sector. Agriculture (in a broad sense) is the sector with the most attention to be restored or developed in many villages (26.40%). Other sectors are tourism (24.14%), followed by various service sectors such as village
market, stall, drinking water supply, general trade (19.21%), processed food (6.9%), and are various sectors such as small industry, creative industry, culinary, services, and online commerce. Some villages also optimize Village-Owned Enterprises / BUMDes.

b. Types of businesses in the research sample villages

The government encourages village communities to focus on developing their superior products. Based on the survey results, most of the sample villages (84.27%) have superior products, while a few villages (15.73%) do not have superior specific products. The largest superior products are food crop agriculture and livestock (36.17%), food processing industry (25.05%), household needs (8.93%), handicrafts (5.88%), plantations and processed plantation products (5.6%), batik and convection (3.92%) horticulture (3.70%), tourism (2.61%), and the various kinds of small industries and services. Another village economic potential is the variety of types of trading businesses. In contrast with the potential of the village, most of the village communities have businesses in the trade sector. Based on the survey results, there are various types of village community businesses that reach 24,803 units, of which the most are trading, services, and food processing industry. Tourism, plantation, and fishery businesses are still rarely managed by the community in the research sample villages, as shown in Table 1 below.

| No. | Type of Business in Sample Village | Number | Percentage |
|-----|-----------------------------------|--------|------------|
| 1.  | Trading                           | 9,420  | 37.98      |
| 2.  | Service                           | 3,734  | 15.05      |
| 3.  | Food Processing industry          | 2,877  | 11.60      |
| 4.  | Livestock                         | 1,962  | 7.91       |
| 5.  | Other business                    | 1,910  | 7.70       |
| 6.  | Agriculture                       | 1,822  | 7.35       |
| 7.  | Creative Industry                 | 1,434  | 5.78       |
| 8.  | Fishery                           | 903    | 3.64       |
| 9.  | Plantation                        | 582    | 2.35       |
| 10. | Tourism industry                  | 159    | 0.64       |

Amount: 24,803 (100)

Table 2. Number of BUMDes in Central Java in 2019 - 2020

| No. | Status of Village Owned Enterprise | 2019 | %     | 2020 | %     |
|-----|-----------------------------------|------|-------|------|-------|
| 1.  | BUMDes not yet formed             | 3,306| 42.34 | 2,270| 29.07 |
| 2.  | Basic                             | 2,764| 35.40 | 2,820| 36.11 |
| 3.  | Growing                           | 1,608| 20.59 | 2,504| 32.07 |
| 4.  | Developing                        | 113  | 1.45  | 171  | 2.19  |
| 5.  | Advanced                          | 18   | 0.23  | 44   | 0.56  |

Amount: 7,809 (100)

Most BUMDes in Central Java Province are still in the basic stage (36.11%) and are growing 32.07%, and only 0.56% are advanced. Nevertheless, the growth in the number of BUMDes needs to
be appreciated because there is an increase of 23% compared to 2019. Based on this survey data in 337 villages, there are 196 villages (58.16%) that have formed BUMDes and are running well. BUMDes in some villages are not active, and some villages do not have BUMDes. More details can be seen in Table 3.

![Figure 2. Map of Status of Village Owned Enterprise in Central Java; 2019 (right) and 2020 (left)](image)

Table 3. The existence of BUMDes in the Research Sample Village

| No. | The existence of BUMDes | Number of villages | Percentage |
|-----|-------------------------|--------------------|------------|
| 1.  | BUMDes not yet formed   | 38                 | 11.28      |
| 2.  | In the process of forming | 22          | 6.53       |
| 3.  | Have BUMDes but not active | 81          | 24.04      |
| 4.  | Have BUMDes and active  | 196                | 58.16      |
|     | **Jumlah**              | **337**           | **100**    |

Based on the table above, there are 38 villages (11.28%) that have not yet formed BUMDes. Some villages have formed BUMDes but have not run optimally (24.04%) due to the lack of management capabilities and limited human resources and capital so that the management of BUMDes has stalled even though the central government and provincial governments have provided assistance and capital assistance.

BUMDes run various kinds of businesses to seek profits that contribute to village income and community welfare. The type of BUMDes business in Central Java Province based on data from the Community and Village Empowerment, Population and Civil Registry Service Centra Java Province, can be classified into service and trade businesses, and business management of the main economic potential of the village. More details can be seen in Table 4.

Most of the businesses managed by BUMDes in 2017 in Central Java Province according to the data above were dominated by services and trade. Financial services business occupies the highest position, followed by non-financial services, and trade, as well as rental services. BUMDes financial services business in the form of savings and loans, non-financial services in the form of general services, trading business in the form of grocery and food stores, and rental businesses in the form of party equipment and construction equipment. The type of business according to the village's main potential sectors (agriculture, animal husbandry, fisheries, tourism crafts) is quite low, at 18.79%.

The type of BUMDes business in the research sample is the majority in the form of trading and service businesses. Based on the results of filling out the google form, data on several types of businesses that have been run or planned by the 337 research sample villages were obtained, which can be seen in Table 5 below. The type of business that is mostly carried out by BUMDes in the research sample villages belongs to the classification of services and trade, while the efforts to develop the village's main potential are still very few. In the service and trade business group, the most common types of business are savings and loans, general trading/grocery shops, various types of
services, party equipment rental, agricultural equipment and construction equipment, as well as mineral water stalls. Business groups related to the village's main potential are the agricultural, livestock, fishery, and tourism sectors

Table 4. Classification of BUMDes business types in Central Java (2017)

| No. | BUMDes type of business                                                                 | Percentage |
|-----|----------------------------------------------------------------------------------------|------------|
| A.  | Services and Trading                                                                     | 81.21      |
| 1.  | Financial services (Savings and Loans, Women Savings and Loans/SPP, microfinance/LKM, etc)| 31.67      |
| 2.  | Non-Financial services (village market management, water supply, service bureau, electricity account service, garbage service, land and building tax service, intermediary service, internet cafe, photocopy) | 29.22      |
| 3.  | Rental business (party equipment, building, agricultural equipment, village land, shop & stall, tent, construction equipment) | 7.45       |
| 4.  | Trading (general trade, village retail, materials, agricultural products, gas, paving, franchising, batik, delivery shops, necessities, agricultural stores, agricultural products, convection shops, agricultural equipment, fishery and marine products, shredded) | 12.88      |
| B.  | Village Main Potentials                                                                 | 18.79      |
| 1.  | Agriculture (agricultural production facilities, fertilize, seed, Plantation, Horticulture, Rice Field Irrigation, Organic Fertilizer, Farming Business) | 6.25       |
| 2.  | Livestock (Chicken Livestock, Goat Livestock, Cattle Livestock, Cattle Fattening, Modern Livestock) | 2.98       |
| 3.  | Fishery (aquaculture, fish cultivation, catfish farming)                                | 1.49       |
| 4.  | Craft (Bag & dolls, Fabric Waste craft, Home Industry, Small & household industry, Handicrafts) | 1.92       |
| 5.  | Tourism (tourism village, nature tourism, religious tourism, beach, mangrove, agrotourism, adventure, wellness) | 6.15       |

Table 5. Types of businesses that have been run or planned by BUMDes in the research sample

| No. | BUMDes type of business                                                                 | Unit Percentage | Cumulative |
|-----|----------------------------------------------------------------------------------------|-----------------|------------|
| A.  | Services and Trading                                                                     | 87.98           |
| 1.  | Financial services                                                                       | 14.15           |
| a.  | Savings and loan                                                                        | 14.15           |
| 2.  | Non-financial services                                                                  | 28.78           |
| a.  | Garbage service                                                                         | 5.9             |
| b.  | Clean water supply (Pamsimas)                                                           | 5.66            |
| c.  | Photocopy & printing                                                                    | 4.01            |
| d.  | Payment (land tax, electricity bills, water bills)                                      | 1.42            |
| e.  | Various other types of services                                                         | 11.79           |
| 3.  | Rental                                                                                 | 14.15           |
| a.  | Party equipment, tent, agricultural equipment, construction equipment                   | 10.14           |
| b.  | Building, stall                                                                        | 4.01            |
| 4.  | Trading                                                                                | 30.9            |
| a.  | General trading/Grocery store                                                          | 13.44           |
| b.  | Necessities                                                                            | 5.66            |
| c.  | Office stationery                                                                      | 4.25            |
| d.  | Mineral water stall                                                                    | 7.55            |
| B.  | Village Main Potentials                                                                 | 12.03           |
| 1.  | Agriculture, livestock, & fishery                                                       | 6.37            |
| a.  | Agricultural production facilities, goat/sheep, cattle, fish cultivation                | 6.37            |
| 2.  | Tourism                                                                               | 5.66            |
| a.  | Tourism village, nature tourism                                                         | 5.66            |
Tourism based on the concept of "tourism village" utilizes the natural conditions, culture, and social life of rural communities which has sustainable economic potential and can absorb a lot of labor. Another type of business that is still relatively small but has the potential for sustainability and is starting to develop is vehicle tax payment services. This type of business fills the gap in the community's need for easier services. For example, the BUMDes of Bojasari, Kertek District, Wonosobo Regency has collaborated with the local government to pay motor vehicle taxes in the village (based on the results of in-depth interviews).

d. Compatibility of BUMDes Business Types and Village Economic Potential

Most BUMDes have various business units, both conventional businesses such as services and trade, as well as local potential development and new business innovations. Most of the existing BUMDes have 1-3 different business units, some BUMDes have more than 5 business units. Some of these types of businesses, some are following the potential of the village, some are not directly related to the potential, and some can support the development of local potential. For example, the Blimbing BUMDes in Bruno Subdistrict, Purworejo Regency, which was established in 2018, has various conventional business units such as office stationery stall and photocopy, car rental, mineral water stall, and grocery wholesalers, as well as tourism management businesses as the development of village main potential.

Most of the BUMDes that have been operating in the research sample villages have business units that are not following the economic potential of the village. Even for villages that have not yet established BUMDes, there is no idea at all to run a business that supports the village's potential. Only 12.76% of BUMDes business units that have been running can be said to support the village's main economic potential or can become community business partners according to the village's economic potential. Only 11.73% of businesses that have been run are efforts to develop village potential directly. For more details, see table 6 below.

**Table 6. The compatibility of the choice of BUMDes business type with the village's economic potential**

| No. | Compatibility with village’s economic potential | No BUMDes numb | Process of forming | Not active BUMDes numb | Active BUMDes numb | Total numb |
|-----|-----------------------------------------------|----------------|-------------------|------------------------|-------------------|-----------|
|     |                                               | %              | %                 | %                      | %                 | %         |
| 1.  | Not compatible to potential/no ideas yet      | 38 100        | 21 95.45         | 57 70.37               | 148 75.51         | 264 78.34 |
| 2.  | Can support/ related                          | 0 0.00        | 1 4.55           | 17 20.99               | 25 12.76          | 43 12.76  |
| 3.  | Potential development                         | 0 0.00        | 0 0.00           | 7 8.64                 | 23 11.73          | 30 8.90   |
|     | Amount                                        | 38 100        | 22 100           | 81 100                 | 196 100           | 337 100   |

The type of business carried out or planned by BUMDes in the research location can be classified into 3 groups, namely: 1) conventional, such as general trading, services, and rentals, basic services such as water and energy, and garbage service; 2) new business innovation; 3) development of local economic potential. The most common types are conventional businesses such as services and rentals, especially financial services (savings and loans), building and equipment rentals, and payments services. Other sectors are general trading, grocery stores, and the provision of other basic needs that only involve a few workers. Only a small number of BUMDes businesses develop local potential and can create wide employment opportunities. Businesses that are innovative or new and open up new opportunities are also still limited. Table 7 below shows the classification of several business sectors in BUMDes.
Table 7. Types of BUMDes Business

| No. | Business type                     | No BUMDes | Process of forming | Not active BUMDes | Active BUMDes | Total |
|-----|-----------------------------------|-----------|--------------------|-------------------|--------------|-------|
|     |                                    | numb      | %                  | numb              | %            | numb  | %     |
| 1.  | Conventional                       | 30        | 60                 | 10                | 90.91        | 70    | 80.46 | 352  | 84.01 | 436   | 83.37 |
| 2.  | New business innovation            | 2         | 40                 | 1                 | 9.09         | 8     | 9.20  | 37   | 8.83  | 48    | 9.18  |
| 3.  | Develop local economic potential   | 0         | 0                  | 0                 | 0            | 9     | 10.34 | 30   | 7.16  | 39    | 7.46  |

Table 7. Types of BUMDes Business

Conventional business types such as financial services, general trading or grocery store, as well as various services and rentals, are the choices for many BUMDes because they are considered easier to run and generate money. As the data in Table 7 above, the service, trade, and rental business units, as well as the fulfillment of necessities, and basic services dominate the type of BUMDes business. Based on the results of an in-depth interview with the Head of Pakuran Village, Buayan Sub-district, Kebumen Regency, that their BUMDes chose their main business of trading, necessities, and financial services because they have profitable business potential. Likewise, BUMDes in Candirejo Village, Pringapus Sub-district, Semarang Regency has a plan to develop a stall rental service business unit because it is considered profitable. Meanwhile, the Pandean BUMDes in Ngablak Sub-district, Magelang Regency has a savings and loan business unit, payments for electricity and water, as well as buying and selling groceries because they make money faster. Then BUMDes Argopeni Buayan Sub-district, Kebumen Regency also developed a stall rental business, printing, and transportation services because of the good business potential.

On the other hand, only a few BUMDes have business units to develop local economic potential or are innovative businesses, and seek to become community partners. For example, Buayan Sub-district, Kebumen Regency has a superior product of palm sugar which is the main income for most of the population, but only 5 out of 18 BUMDes in Buayan Sub-district have businesses in the marketing of palm sugar. So far, processing farmers sell to middlemen at less competitive prices, and the role of BUMDes is needed to ensure better prices. Based on a study by UII and UGM, a BUMDes roadmap has been prepared (survey, identification of core business, and stages of BUMDes development) for the next 5 years. This is reinforced by the statement from the Buayan Sub-district head (Isnadi) and the palm sugar business companion (Parmin) that the palm sugar business is a partner of the community, and during the COVID-19 pandemic, demand for palm sugar exports has increased.

BUMDes is expected to be able to play an important role in increasing the sugar palm agro-industry. Some of the steps that must be taken include public education, forming new groups, tree certification, providing training, understanding the community about business, quality control, and improving infrastructure. The obstacle faced by BUMDes in Buayan Sub-district, Kebumen Regency is limited resources, for example, the Wonodadi BUMDes which was established in 2017, can only absorb ant sugar production from the community as much as 6 tons even though the total production amount is much larger. Due to limited capital, the role of BUMDes has not been significant, so there needs to be additional intervention from the government to strengthen BUMDes. Several efforts have been made by the government to strengthen BUMDes capital. As stated by the Head of Rangkah Village, Buayan Sub-district, Kebumen Regency, in 2019 and 2020 the government has assisted in the development of the Buayan rural area as much as 300 million rupiahs which are used as BUMDes capital and production equipment. In addition, several villages are also forming a joint BUMDes which will manage the palm sugar business unit.

Another example of the role of local potential development by BUMDes is carried out in Candirejo Village, Pringapus Sub-district, Semarang Regency. As stated by one of Candirejo village officials (Zamroni) that Candirejo BUMDes currently has a business that is engaged in the corn processing sector. This business choice was made because corn production is very abundant in the

| Table 7. Types of BUMDes Business |
|-----------------------------------|
| No. | Business type                     | No BUMDes | Process of forming | Not active BUMDes | Active BUMDes | Total |
|-----|-----------------------------------|-----------|--------------------|-------------------|--------------|-------|
|     |                                    | numb      | %                  | numb              | %            | numb  | %     |
| 1.  | Conventional                       | 30        | 60                 | 10                | 90.91        | 70    | 80.46 | 352  | 84.01 | 436   | 83.37 |
| 2.  | New business innovation            | 2         | 40                 | 1                 | 9.09         | 8     | 9.20  | 37   | 8.83  | 48    | 9.18  |
| 3.  | Develop local economic potential   | 0         | 0                  | 0                 | 0            | 9     | 10.34 | 30   | 7.16  | 39    | 7.46  |

| Amount | 5 | 100 | 11 | 100 | 87 | 100 | 419 | 100 | 523 | 100 |
area, and marketing of corn is still carried out in a raw condition through middlemen so that farmers do not have a good price bargaining position. Therefore, BUMDes will become community partners by buying corn at a better price and being able to process it (not only sold raw), so that the economic value of corn is expected to increase.

In the other villages, BUMDes already have plans for developing innovative businesses in various sectors. As stated by the Head of Candirenggo Village, Buayan Sub-district, Kebumen Regency, where this village has potential water resources, and they are currently drafting a water tourism development design that will be managed by BUMDes and in collaboration with community members as investors. Another line of business that will be developed is the provision of clean water for sale to local government water companies (PDAM). BUMDes has also agreed/MoU with investors for the construction of a fuel oil filling station which will be built on land owned by the village government. The Head of Blimbing Village, Bruno Sub-district, Purworejo Regency also stated that their BUMDes will develop a national standard paragliding tour, which is currently applying for a take-off and landing location permit. This development has the potential to open up new job opportunities for the community and have an impact on economic recovery in the COVID-19 Pandemic era. Another business that fits the village's potential is wood processing, where there are many wood cultivation farmers (mahogany, albizia), so wood processing is needed, and this business investment opportunity can absorb local workers. Another initiative is Etawa Goat farming, but due to COVID-19, the plan was postponed because funds were allocated for handling the impact of the pandemic.

In Girimarto Sub-district, Wonogiri Regency, according to a Sub-district government staff (Setyaningsih Ariani), Bubakan Village is developing Muncar Temple tourism. The capital comes from BUMDes by involving the surrounding community, tourism awareness groups (Pokdarwis), and Perhutani Company, so that they can become new jobs. In Pakuran village, Buayan Sub-district, Kebumen Regency, the BUMDes which was established in 2018 also has a tourism business unit, as an alternative source of income.

In Kebasen Village, Talang Sub-district, Tegal Regency, the BUMDes which was formed in 2018 was initially engaged in the garbage service, they will develop other units that can create new jobs. As stated by the Head of Kebasen Village (Agus Sofwan), that they will develop fishing tourism by utilizing the reservoir that has been built since 2019 by the Central Java Provincial Government. They will also develop metal industry tourism, where Kebasen Village is a center of the metal industry in Tegal Regency. Based on this explanation, several innovations developed as alternative incomes through BUMDes mostly occur in the tourism sector (including the creative industry) and the processing industry. Tourism activities (including creative industries) and processing industries are considered to be able to generate quite promising income and can provide jobs for the surrounding community.

The various innovative business units provide job opportunities for the community, although they have limited capacity, but can involve the wider community with a partnership system. Thus, the potential of BUMDes for village economic recovery in the COVID-19 pandemic era is to be able to provide alternative employment opportunities for its citizens through optimizing the village's economic potential with various business innovations and is also expected to become community business partners.

e. Constraint to the development of BUMDes

The problem faced by many BUMDes is the lack of business development ideas. Most BUMDes that have trade and service businesses compete more with the community, and some cannot compete with similar businesses. An example was expressed by an apparatus from Kalisalak Village (Ahmad Zamroni), Limpung Sub-district, Batang Regency that the BUMDes business in selling necessities was postponed because funds were allocated for handling the impact of the pandemic. Another problem experienced by many BUMDes is the low entrepreneurial spirit of the managers. Most BUMDes managers are highly dependent on government assistance and are hampered by regulations. The Kalisalak Village Government officials stated that they wanted to expand the BUMDes business but did not have the capital, and asked Central Java Province to provide capital assistance.
Another problem that most BUMDes face is weak management. The head of Plosoharjo Village, Toroh Sub-district, Grobogan Regency stated that they had received assistance from the Central Java Provincial Government of 50 million rupiah, but so far it is still stagnant in the pilot stage and has not been managed optimally. Another case occurred in Candirejo Village, Pringapus Sub-district, Semarang Regency, where they had received assistance from the Central Java Provincial Government of 20 million rupiah, then the BUMDes manager used it for agricultural savings and loans, but the management did not go well because there were a lot of bad loans. Another case was also conveyed by the Head of Bedono Village, Sayung Sub-district, Demak Regency, that they had a joint BUMDes, but it did not work because of management constraints. Therefore, to optimize BUMDes, in addition to financial assistance, management arrangements are also needed.

Another obstacle in the BUMDes development is regulation. As stated by the Head of Kaligayam Village (Joko Sutrisno), Wedi Sub-district, Klaten Regency, that there are regulations that limit the space for BUMDes to move, where there are rules that prohibit BUMDes in certain sectors, for example, the provision of goods and services for poverty reduction programs, such as rehabilitation of uninhabitable houses programs (RTLH). It would be more profitable if the procurement of RTLH materials could be through BUMDes, but the rules state that procurement should not be through BUMDes.

3.2 Analysis

In general, BUMDes in Central Java has various potentials, namely from the aspect of the policy, resource support, and community support. Regulation of the Minister of Villages, Development of Disadvantaged Regions, and Transmigration Number 4 of 2015 has mandated the establishment of BUMDes intending to be an instrument for utilizing the local economy based on the potential to improve the economic welfare of villagers [29][23]. The government has also issued a policy so that BUMDes get capital support from village funds. The Central Java Provincial Government has also provided capital assistance for BUMDes. Several BUMDes in Central Java also received funding support or capital investment from the community. In several villages, BUMDes collaborate with the community, collaborate with other BUMDes, and collaborate with other institutions outside the village.

BUMDes has a big role because it can function as a social institution that provides social services, as well as a commercial institution that aims to seek profit. In addition to generating financial benefits, BUMDes can also be used for social activities, distribution of social assistance, and community empowerment. One form is for example BUMDes as a distributor of basic food assistance, providing cheap production raw materials, or providing access to credit and loans that are easily accessible to rural communities, as well as providing social assistance from some of the profits [29].

BUMDes with businesses compatible with the village's economic potential have good business prospects and has succeeded in improving the welfare of the community [30]. According to the results of the policy summary of the National Team for the Acceleration of Poverty Reduction (TNP2K) [16], before the pandemic BUMDes that had the potential to develop and sustainable are those that can optimize the potential of villages or their businesses by providing public services (clean water, stall/village market) or goods needed by village communities. In addition, the leadership and strong vision of the village head or BUMDes head will determine the progress of the BUMDes. BUMDes should be able to accommodate community economic activities that are managed professionally, productively, and effectively and still rely on the original potential of the village, to increase community income [31]. For example, several BUMDes in Buayan District, Kebumen Regency have tried to increase the added value of palm sugar through improved distribution and marketing. BUMDes Tirta Mandiri Ponggok Village, Polanharjo Sub-district, Klaten Regency manages village assets and potential in the form of water resources in a structured, transparent, and involves community participation. The village government and the community work together in managing BUMDes by combining social principles with economic principles [32].

The main factor in the success of the BUMDes function according to several previous research results is being able to provide socio-economic solutions to the community. The success of BUMDes
includes providing services according to the basic needs of the community, providing employment, and optimizing village assets [33]. The availability of abundant potential (natural resources) and high community participation are also supporters of the development of BUMDes [34]. The role of BUMDes can be seen from 3 dimensions, namely civil society, innovation, and economic activity [29]. From the civil society dimension, employing the surrounding community; based on community initiatives, and accommodate community aspirations. From the Innovation dimension, it is to provide opportunities for the community to be creative, take advantage of the opportunities and potential of the village, and take advantage of technological developments. From the economic activity dimension, you can run your business professionally, and help the economy and the welfare of the community [29]. The role of BUMDes should be able to answer the difficulties of the community in the era of the COVID-19 pandemic.

The role of some BUMDes in Central Java Province, especially those engaged in trade and services during the COVID-19 pandemic, is as a provider of necessities in social assistance programs. As [16], one of the main roles of BUMDes during the pandemic is to become a supplier of local food needs. The role of BUMDes should not be limited to these social functions but should increase community productivity. BUMDes are needed in other roles, including being a partner of SMEs as a distributor or marketing of their products or becoming a farmer partner to distribute agricultural products [16]. BUMDes should be able to increase the village economy, become community partners in increasing productivity, marketing channels, and opening up new business opportunities, or new mass employment opportunities.

Some BUMDes have tried to collaborate with various other parties for business development or looking for new business opportunities. Some of these types of businesses take advantage of the village's economic potential to be developed into the tourism sector and creative industries, some develop businesses providing basic services such as water, energy, and garbage services or waste management.

In general, the role of BUMDes in economic recovery during the COVID-19 pandemic in Central Java Province has not been optimal. Most BUMDes have not been able to increase the economic activity in the village, become community partners in increasing productivity and marketing channels, as well as open new business opportunities or new jobs. Several previous studies in other areas revealed that there were inhibiting factors for BUMDes, namely the lack of socialization of business development programs, narrow mindsets, lack of support from various parties, and lack of competent human resources because they prefer to work in other agencies [30]. Another obstacle is management that is not a totality, and conflicts of interest for BUMDes managers [33]. Most BUMDes also have limited human resources, low managerial capacity in financial management, and a lack of capital [22].

This study found that most BUMDes run businesses that are not directly related to village economic potential, so they have not been able to become community partners in increasing productivity and marketing. One of the reasons BUMDes does not play a role in improving the village economy is because it has not utilized the village's potential optimally [35]. Most of the BUMDes are also able to open up new jobs, even the type of BUMDes business has the potential to compete with community businesses.

Based on the data, only 7.16% of active BUMDes run their business to develop local potential, and only 8.83% (table 7) have innovations in new types of businesses that open up new job opportunities. Most BUMDes have conventional business types, namely services, rental, and trade (83.37%). Most BUMDes are engaged in services in the form of equipment rental, buildings, stalls, land, vehicles, bill payment services, financial services, and several other types of services. Others have trading businesses, especially grocery stores including necessities. This type of business has become the choice of many BUMDes in other areas, for example, research [36] on BUMDes Karya Mandiri in West Java found that LPG gas base business units, stalls, and bill payment counters are still one of the main choices for BUMDes businesses [36]. These types of businesses are easy to run but have the potential for competition with the community.

In addition to the selection of businesses that are not following local potential, the concept of BUMDes business development is also still limited. New business innovations are still rarely carried out by BUMDes. Most of the active BUMDes have service and trade businesses, and only 8.83% are
innovative. As for the villages that are pioneering the establishment of BUMDes, none have a business plan to develop local potential, and only 9.09% are innovative.

The type of business chosen by most of the BUMDes, in the end, does not play a role in driving the economy of the village community, becoming partners, opening new business opportunities, or mass employment opportunities. The results of research Riyanti and Adinugraha [22] in Bodas Village found that the rental business of construction equipment and party equipment managed by BUMDes was only able to create a few jobs and a limited market share. Another study on BUMDes “Podho Joyo” Sukorejo Village with garbage service efforts was only able to open up a few jobs [37].

The ideal step in determining a BUMDes business is, to begin with, a business feasibility study, then the business plan is offered to the villagers to be discussed together through a deliberation forum [36]. However, not many villages have studied the feasibility of their BUMDes business. Only a small number of villages have done this, such as the villages in Buayan District which involved UII and UGM in the preparation of the BUMDes roadmap.

Cooperation with other parties, and developing new innovative businesses are also opportunities, but not many BUMDes have done it. Cooperation and innovation are an alternative for BUMDes to earn more income [36]. Several innovations such as digitalization, opening a global market, or fee-based income models such as serving health insurance payments or interbank transfers can be an option [23]. Innovation is also needed for BUMDes that have businesses according to village potential. One of them is cooperation with investors or banks to strengthen capital. Cooperation can also be done through market sharing with exporters. BUMDes engaged in the tourism sector also need to make various innovations. Restrictions due to the pandemic must of course be addressed with changes in the concept of safe and healthy tourism. Innovation for BUMDes engaged in the tourism sector is needed, one of which is diversification of local products [38].

According to field data, not many BUMDes have an innovative business orientation. Most are still dependent on government assistance. Many BUMDes rely on government funds as their business capital with various conditions, and restrictions, as a result, they cannot develop various potential business sectors. Several BUMDes have tried to raise funds from investors, as well as local community investments, but the value has not been significant.

Another problem for developing BUMDes is limited resources, especially budget and human resources. Many BUMDes encounter obstacles of low budget availability [34]. Although BUMDes have economic potential, the village government only allocates a small budget for BUMDes, they prioritize infrastructure development [22]. The composition of investment spending in the research sample villages is only 1.5% on average, while for infrastructure it is 40.65%. Although the Ministry of Villages, Development of Disadvantaged Regions, and Transmigration have given directions that one of the priorities for using village funds is for BUMDes investment, the allocation for infrastructure is still the main choice. In the era of the COVID-19 pandemic, most of the spending was diverted to mitigate the impact of COVID-19. Infrastructure spending was suppressed and the previously planned BUMDes investment spending was also diverted for handling COVID-19. Thus, there needs to be a special initiative so that the investment or funding needs of BUMDes are met, for example by inviting local investors (village communities) to invest in BUMDes.

In addition to limited funds, many BUMDes also face human resource problems, where most of them are unprofessional, mastery of administrative systems that do not meet standards, lack of training, and lack supervision from related institutions [35]. Most BUMDes do not yet have professionals who have an entrepreneurial spirit. BUMDes managers lack innovative ideas for new business development, as a result, BUMDes become stagnant. Human resource capacity also has an impact on BUMDes management, for example, BUMDes Bersama in Sayung District does not run optimally due to a lack of management skills. The dilemma that occurs is that BUMDes are required to accommodate local peoples as managers and workers, but on the one hand it must be ensured that they have professionalism [39]. Meanwhile, people who have professionalism usually do not live in the village. Entrepreneurs with higher levels of education benefit the local economy, but few jobs are available in rural areas, leaving rural areas short of young and highly educated people [40].

Other research reveals that most BUMDes still do not get the public's trust. The existence of BUMDes can benefit the community if there is trust between the community and the BUMDes
managers [41]. Other studies have also found that the contribution of BUMDes, especially in the form of direct benefits to the community, has not been optimal. The allocation of BUMDes profits to the community is still lacking and mistargeted so that village communities do not directly feel the economic benefits of the existence of BUMDes, as well as the lack of socialization of activities and reporting of BUMDes performance [39]. This study found that the average village original income was only 10.54% of the total village income, and only a small portion came from BUMDes profits. Even some BUMDes have not made any profit at all. This means that most village development funds come from the government and other sources, and BUMDes have not contributed to village income.

Several things need to be done to optimize the role of BUMDes in economic recovery during the COVID-19 pandemic, namely commitment from the policy aspect, resource allocation, and increasing human resource capacity [26]. Based on the policy aspect, it is necessary to strengthen the legality of BUMDes in each village so that it can play a role in increasing Village Original Income (PADes) and growing the village economy [42]. Regulations must also ensure that there is a commitment to budget allocations, human resources, and assistance from the government, local governments, village governments, and related institutions.

To deal with budget issues, incentives and working capital credits for BUMDes can be provided as part of the national economic recovery in the COVID-19 pandemic era [26]. BUMDes can also collaborate with other parties, especially supporting institutions, industry, and investors. With this collaboration, BUMDes has the opportunity to develop a wider business and is not limited to village government capital. BUMDes can also involve the community as investors.

From the aspect of increasing the capacity of human resources, socialization, as well as training and assistance, are needed to increase creativity, innovation, and professionalism in the management of BUMDes [22]. As stated by the Head of Candiirenggo Village, Buayan Sub-district, Kebumen Regency, that they need training and a change in the mindset of the managers. If possible, education and training centers are established for BUMDes managers to improve knowledge and governance in running their businesses [26].

In addition to education, community participation in an establishment, analysis of business types, and business processes are also important. BUMDes can survive because of good participation by the community [43]. If socialization is carried out, space for community participation is opened, then BUMDes will get support and play a better role.

In addition, various innovations are also very much needed. Various new business units that have broad market opportunities, can absorb a lot of workers, and support the optimization of village potential, have not been developed by many BUMDes. Reddy and Mamgain [44] in their research in India proposed that the restoration and reconstruction of rural livelihoods use an out-of-box approach, making it more rapid and inclusive. Some steps that can be taken are infrastructure improvement, basic education, skills training, cluster-based development approach, increased financial support, local product branding, profitable value chains, and institutional reforms [44]. It is also important to establish networks to improve crisis response and rural competitiveness [45].

4. Conclusion

One of the impacts of the COVID-19 pandemic is increasing poverty and unemployment, both in urban and rural areas. The sectors most affected are equipment rental services, parties, vehicles, entertainment services, tourism, transportation services, and the creative industry. Meanwhile, several sectors that can survive include agriculture, trade, livestock and fisheries, food processing, various services, food stalls, and micro/small industries.

BUMDes has the potential to play a role in economic recovery, but this function is not optimal because the business sector managed by BUMDes is not based on the village's main economic potential, as well as the lack of business development concepts, weak human resource capacity and capital, and weak cooperation with other parties. BUMDes need to conduct a feasibility study of the type of business according to local potential, by involving the community. For BUMDes to get community recognition, the process of establishment, selection of business types, and management must involve community participation. To deal with budget problems, incentives, and working capital
credits for BUMDes can be provided, in collaboration with other parties, especially supporting institutions, industry, and investors. To improve human resources, training and assistance are needed to increase creativity, innovation, and professionalism. Various innovations in new business units need to be encouraged because they have opportunities for community empowerment, wide market share, can absorb a lot of workers, and support the optimization of village potential.

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