

Institutional Development Strategies for Internet Provision in Digital Communities and Villages (Study in Inter-Village Owned Enterprises, Panca Mandala, Tasikmalaya Regency)

Strategi Pengembangan Kelembagaan Penyediaan Layanan Internet dalam Komunitas dan Desa Digital (Studi di Badan Usaha Milik Antar Desa Panca Mandala Kabupaten Tasikmalaya)

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ABSTRACT

PT. Bumades Panca Mandala which was established by the Inter-Village Cooperation Agency is an institution for providing internet access for villages in Jatiwaras District, Tasikmalaya Regency. The activities are carried out through a partnership program with a company as an Internet Service Provider and the Telecommunication and Information Accessibility Agency (BAKTI). This study aims to analyze the development process, identify the level of development, and formulate an institutional development strategy for providing internet services. To fulfill the purpose, qualitative research is used which is supported by quantitative data analysis. The research location is in 5 villages that are members of the Panca Mandala Inter-Village Cooperation Agency in Tasikmalaya Regency, West Java Province. The research was carried out from July 2019 to July 2021. Data collection was carried out using various techniques. Group interviews and in-depth interviews were conducted with informants consisting of community leaders, village government, youth, farmers, traders, and ranchers from the villages of Mandalamekar, Mandalahurip, Papayan, and Kertarahayu. The questionnaires were distributed to 30 respondents managing PT Bumades Panca Mandala. Focus Group Discussion and Technology Participation facility methods were carried out to formulate the institutional development strategy. The research findings indicate that the process of developing internet access provision requires the form of a business entity. The results of this process have connected the internet in 23 village offices, 4 schools, 21 MSMEs, and 52 households. In addition, the process has opened up new job opportunities for village youth. The level of progress of PT Bumades Panca Mandala as an internet provision institution in the village is in the Developed category. To maintain the increase in development, a progressive strategy is formulated, namely overcoming weaknesses to take advantage of opportunities and challenges in providing internet infrastructure in digital community development-based villages.

Keywords: *inter-village cooperation, digital-divide solution, digital community, digital Village*



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INTRODUCTION

Data from the Indonesian Internet Service Provider Association (IISPA or APJII) show that the penetration of internet users in 2019-2020 was 196,71 persons out of 266,91 Indonesian people or 73.7%. There was about 8.9% increase of internet penetration from the previous year, but the use of internet in rural areas was only 48.25% (IISPA, 2020).

The availability of computer technology, high-speed internet network, and new telephone services that are good, fast, and cheap should be increased so that all citizens, especially those who live in rural areas, can get the benefits of internet use (Subiakto, 2013). According to the Ministry of Communication and Informatics, the number of villages that did not get access to information technology (IT) was about 40% in 2017. This gap made the villages difficult to develop (Alvaro & Octavia, 2019). This became a policy base for building the infrastructure of the internet network, together with the availability of electricity in villages. Through the policy, a digital divide occurring in cities and villages can be eliminated (Ariyanti, 2013; Mallisa et al., 2009). The availability of technological infrastructure in villages and the *3T* areas (the frontier, the left-behind, and the outermost) in Indonesia need to be facilitated with a digital literacy program for beginners, since not all villagers have enough knowledge and experience to make use of digital devices, such as *Smart Phone* and computers; thus, it is necessary to increase the sustainable capacity (BAKTI & Kominfo, 2021).

The Agency of Information and Telecommunication Accessibility (AITA - BAKTI) is a public service unit in the Ministry of Communication and Informatics, Republic of Indonesia, established with reference to the Telecommunication Law Number 36/1999 and based on the Ministry Regulation Number 3/2018. It is one of the government institutions that is mandated to give attention to the development of infrastructure for internet access in villages (www.baktikominfo.id). This is because the operator of telecommunication or the Internet Service Provider (ISP) has not intended to build an internet access in villages and in the *3T* areas. BAKTI takes care of it using a universal service finance management with the concept of Universal Service Obligation (USO). However, the Integrated Broadband Village Program that is being developed to handle the problem is not yet optimal to include the villagers. This can be identified from the limited internet networks, and even those available are not yet utilized for productive activities (Dhahir, 2018). Since 2019, however, this has expectedly changed because the Ring Palapa Network was ready, thus increased the connection reliability all over Indonesia. The need for internet access in rural areas is increasing. In spite of the development, there is a threat, that is if there are no innovative programs, the availability of internet access networks can trigger an individual to have connectivity without an internet access license (Zakiyyah & Rahman, 2021).

The availability of infrastructure of internet access network is needed to build a village in order to improve the quality of life and the welfare of village community (Hamjen, 2015). This can enhance the ISP to make innovations to provide infrastructure as well as to support internet access that is reasonable and easy for the community to act productively (Zakiyyah & Rahman, 2021). The ISP activity can connect the end-users and business to the public internet (Norton & Norton, 2001), so it is the third party who functions as a producer of service provider to consumers in the form of internet access and various productive online media.

With reference to the results of previous research and empirical research in the fields, the internet service provision needs to be developed and supported by a village community institution. Institutionalization according to Uphoff (Uphoff & Goldsmith, 1977) is a series of social institutions that maintain or are used during a certain period of time which is relatively long to reach a collective and social goal. According to Jim Ife (Ife & Tesoriero, 2006), community is local inhabitants that can be distinguished from society through a similar interest (*a community of interest*) or a high interaction level. The members of community have common needs. If there are no common needs, it is not a community. Phillips (Phillips & Pittman, 2009) defines community with reference to a residence (*communities of place*) and interest (*communities of interest*). Therefore, in general community is people who live in a geographical location with certain borders and have a social and psychological bond with each other and with the place where they live. With this understanding of community, the community development also emphasizes on collective actions; the results and impacts are for the community improvement in terms of nature, physics, environment, social, politics, economy and

others. A successful community development is indicated with the emergence of community empowerment, so they can improve the standard of their living continuously.

Problems of Research

Problems of the needs for internet network infrastructure in villages are described empirically in the context of villages in Tasikmalaya Regency. It started from an initiative of one village (Mandalamekar Village), Jatiwaras District in 2009 to open a region isolation. The Village Head explained that in that year the village apparatus had to travel as far as 30 kilometers from one internet stall to another to complete and renew the web content of <http://mandalamekar.wordpress.com> to introduce the condition of the natural resource potential and the building activities that had been carried out in the village. In 2011 the neighboring villages made village-webs to get attention and support from the local government of Tasikmalaya Regency, the Province of west Java, and from the central government.

The limited infrastructure of inter-village transportation at that time which was still a soiled road became a problem for the villagers. Besides, they also had other similarities; the management of natural resources was still simple due to lack of labor force, and they did not have adequate technical skills. Those who mostly worked in agriculture also faced limited access to markets. As a result, in these villages there lied unproductive land. These villages also had very minimum basic infrastructure of education and health. Some settlement areas were hardly touched by a telecommunication access or *blank spots* (Setia et al., 2015). This empirical condition strengthens the perspective that the agricultural commodity products in the areas kept decreasing. This is due to limited number of productive age, especially the young, who wanted to work in agriculture (Pujiriyani et al., 2016).

Issues and similar condition of villages for common needs encouraged them to establish the Inter-Village Cooperation (Bhudianto, 2014). Later on, in the village context in Jatiwaras District there is a village cooperation tailored to the situation and condition of the local needs. An area between villages in a rural area is developed through a mechanism by the community and carried out to strengthen the economy with responsibility for the sustainability of the natural resources and their surroundings. This strategy focuses on the area and humanity (Kolopaking & Nasdian, 2005), and this indicates a relation between a rural area development and community empowerment.

The government officials and villagers feel they need an infrastructure of internet network to open the region isolation. This need can be fulfilled by implementing the Integrated Broadband Village program (DBT) to provide internet access from BAKTI. This program facilitates the provision of Vsat with a capacity of 2 Mbps in the village office. Besides, BAKTI also provides internet access and application of Village and Regional Information System (SIDEKa) as a form of public service of the village government (Ginting, 2017). This process works well, so it is used as a basis for the central government policy to carry out the building of infrastructure for internet access network. The process is even developed together with the expansion of the provision of electricity in the villages. This is then believed to become one way of decreasing the digital gap between cities and villages (Ariyanti, 2013; Mallisa et al., 2009).

BAKTI also develops trainings for those who can complete the village-web content. They are prepared as the village guide in developing the use of information technology for village-based communication. They are also trained to have photography and writing skills for village-web. This can be seen in www.mandalamekar.desa.id; www.mandalahurip.desa.id; www.ciwarak.desa.id; www.kertarahayu.desa.id; and www.papayan.desa.id. These village guides are encouraged to produce a lot of contents, to make videos of potentials of villages and inter-village areas. In addition, they are also participatively trained to make a village map based on digital technology, filling-in the correct population data, and completing the village financial system.

With relation to that, the regional government of Tasikmalaya Regency then formed an inter-village cooperation known as the Panca Mandala Inter-Village Cooperation. This was then followed by the establishment of the Inter-Village Cooperation Body (BKAD) and Panca Mandala Inter-Village-Owned Enterprises. In this article it is then called as Bumades Panca Mandala. BKAD Panca Mandala plays a role to facilitate the process of making regulations and institutionalization needed to carry out the cooperation in the governmental field, empowerment, and development (Integrated Regulation of Village Head Number 01/2016 concerning the change of Permakades Number 01/2015 about Cooperation of Natural Resource Management of Panca Mandala, 2016). Meanwhile, Bumades Panca Mandala was established to optimize the potential of commodities in one inter-village unit area, such as spices, farming, woods, and bamboos, and also mangosteens and durians. The Bumades Panca

Mandala management was authorized to form legal business units in accordance with laws and regulations (Alfiansyah, 2021; Peraturan Bersama Kepala Desa Ciwarak, Kertarahayu, Mandalamekar, Mandalahurip, Papayan Nomor 02 Tahun 2016 Tentang Pembentukan Badan Usaha Milik Desa Bersama Panca Mandala, 2016).

In 2016 the village government and public figures in the community formed common rules of village heads, statutes and bylaws, and standard operating procedures of the Bumades Panca Mandala. The village government was committed to provide fund as much as Rp. 400,000,000 allocated to each APBdes in 2017. The secretariate of BKAD and the Bumades Panca Mandala office were located in Mandalamekar Village. Ten village young men were recruited directly and took on-the-job training, and the Bumades Panca Mandala Management made the entity become a limited company, namely PT Panca Mandala.

The Bumades Panca Mandala offered a solution and a creation room for the village youth who have non-agricultural skills to keep staying in the village. The activity developed was related to the utility of information technology and communication. This became the field of work as well as a place for increasing the capacity of the youth who have no agricultural skills. The needs for internet access in the village became very important for communication, sale, and entertainment, such as media social for community especially the millennial youth. Internet access problem became one of the potentials for Bumades Panca mandala to develop internet access services at home (Rozikin et al., 2019). Together with ISP, PT. Sarana Insan Muda Selaras (SIMS), the Village BUM and Panca Mandala carried out internet-access-service businesses based on the radio-link technology.

In order to carry out business, nowadays the Bumades Panca mandala focusses on the village internet access services. This is because most of the villages in Bumades Panca Mandala were *blankspot* areas (areas with no internet access). On 10 December 2017 the village areas of Panca Mandala were officially determined as Integrated Broadband Village Area (DBT). The DBT program was carried out by BAKTI so that the village government especially in the village office got internet access services and used them to improve services using *e-government* for the whole villagers. In this case there are 5 villages whose village offices got an internet access through VSAT (*Very Small Aperture Terminal*) with a capacity of 1.5-2 Mbps (Ginting, 2017). The DBT management was determined by the Village Head Decree; the management functions as an operator or journalist who is responsible for collecting data and inputting SIDeKa.

The village government kept proposing a larger bandwidth for various activities that need internet access. This becomes an opportunity for Bumades Panca Mandala to start business on the village internet access services in order to help the villagers' economy activities. The Bumades Panca Mandala management recruited local human resources to start establishing the internet access network as an economic opportunity. The *tower triangle* infrastructure developer in each village office that is incorporated in the Panca Mandala area opened business on providing a main tower that can connect one village office to another in Bukit Pasben.

Based on the above background, there are three problems that need to be addressed in the research, namely (1) How is the institutional development process for providing internet access that is in line with the development of digital communities and villages in one area? (2) What is the level of institutional development for businesses? and (3) What are the strategies for developing the business institution?

Objectives of the Research

With reference to the research problems mentioned above, there are three objectives of the research, namely (1) analyzing the process of institutional development for internet provision in villages, (2) identifying the level of institutional development, and (3) formulating the strategies for developing internet service provision institutions so as to make them more developed and sustainable. Therefore, the following description in this article contains the results of analysis and synthesis to formulate policies in strengthening the utilization of internet network infrastructure with a community development approach that can digitalize communities and villages.

RESEARCH METHODS

Five villages in Panca Mandala area, Jatiwaras District, Tasikmalaya Regency, West Java, were selected as the research locations, namely Ciwarak Village, Kertarahayu Village, Mandalamekar

Village, Mandalahurip Village, and Papayan Village. This choice was taken because in these locations there was an institutional development for providing internet in the form of village-owned enterprises. The research was carried out from 2019 to July 2021.

This research used a qualitative research method supported with quantitative data analysis. The qualitative analysis was used to find the process of institutional development for providing internet access. Quantitative data analysis was used to measure the level of institutional development based on evaluation elements on variables and indicators developed according to the field condition. Besides, the strategies for institutional development of internet access provision, in this case the village-owned enterprises, were carried out qualitatively.

Data were collected using three techniques: first of all, documents relevant with the research objectives were gathered, from the village level, regional level and the central level. Secondly, questionnaires were distributed to 30 respondents that were selected because they were active in developing BUM Desa Bersama Panca Mandala (the village government, management of BKAD, and management of BUM Desa Bersama (Effendi & Tukiran, 2012). Thirdly, data were collected by interviewing 14 informants who were chosen because they were involved in the formation and establishment of Kawasan Pedesaan Panca Mandala and also involved in the management of BUM Desa Bersama Panca Mandala. In-depth interviews were also carried out with 5 informants of the village and district leaders. In order to formulate the strategies for developing and sustaining the BUM Desa Bersama Panca Mandala businesses, 2 FGDs, in-depth interviews, and *Technology of Participation* (Cyler et al., 1994) facilitation method were carried out in the village level. Through these methods those who were involved were asked to contribute their thoughts and ideas to the policy through their writing skills.

The data analyses collected were processed by distinguishing the quantitative from the qualitative data. The quantitative data were processed by arranging the composite indexes from the 6 determining indicators of related institutional development, namely (1) the achievement level of vision and mission, (2) suitability of objectives with the strategies for achievement, (3) the quality of human resources, (4) level of planning, (5) level of management, and (6) level of financial management condition. Those indexes were made as pointed out to see the development level of the internet access provision institutions in 5 categories, namely “Underdeveloped”, “Not Developed”, “Less Developed”, “Developed”, and “Very Developed”.

1. The scores given for the six indicators used the following criteria:
Direction for scoring each indicator: the higher the percentage from the respondent’s responses, the higher the score.

Table 1. Indicators of Scores and Categories for the Progress Rate of an Institution

| Score | Category |
|-------|----------------|
| 1 | Underdeveloped |
| 2 | Not Developed |
| 3 | Less Developed |
| 4 | Developed |
| 5 | Very Developed |

2. The arrangement of the composite indexes of the six indicators for the determination of the category of institutional development.

Table 2. Formulation, Range of Scores, and Category for the Arrangement of the Composite Index of an Institution Development

| Formulation | Range of Scores | Category |
|------------------------------------|----------------------|----------------|
| $x \leq M - 1.5(SD)$ 30 | $x \leq 2.00$ | Underdeveloped |
| $M + 1.5(SD) < x \leq M - 0.5(SD)$ | $2.01 < x \leq 2.60$ | Not Developed |
| $- 0.5(SD) < x \leq M + 0.5(SD)$ | $2.61 < x \leq 3.30$ | Less Developed |
| $M + 0.5(SD) < x \leq M + 1.5(SD)$ | $3.31 < x \leq 3.99$ | Developed |
| $M + 1.5(SD) < x$ | $4.00 < x < 4.00$ | Very Developed |

Qualitative data and information were processed through three stages, namely data reduction, data presentation, and verification (Creswell, 2018). A variety of data collections were analyzed both quantitatively and qualitatively. This is presented in Table 3.

Table 3. Types of Data Collected According to Methods of Collection and Analysis

| Aspect | Type and Source of Data | Method of data Collection | Method of Data Analyses |
|--|----------------------------|---|---|
| Process of institutional development for internet access provision | Primary and secondary data | Document tracing, Group Interview, and In-depth Interview with Informants | Descriptive-qualitative analyses |
| Level of institutional development for internet access provision (BUM Antar Desa Panca Mandala) | Primary data | Interview for structured questionnaires | Quantitative analyses Composite Index Method |
| Formulation of strategies for developing and maintaining the sustainability of BUM Antar Desa Panca Mandala businesses | Primary data | FGD and Facilitation method of Technology of Participation | Qualitative data analyses with analyzing technique of content |

The most important thing to know in this study is the role of the researcher who became the subject and/or the object of the research simultaneously. In some stages of data collection such as distributing questionnaires and facilitating workshops, the researcher conducted trainings for facilitators to the youth in the locations to facilitate the process of data collection, and then made confirmation to others who so far had interacted with BUM Desa Bersama Panca Mandala.

RESULTS AND DISCUSSION

The first finding of the research was the process of institutional development for internet access provision in villages should be started from the needs of the village government. In line with that, Eprilianto (Eprilianto et al., 2020), stated that as the smallest government institution, the village government should be the one who understood the most the condition and the needs of its people.

The development did not only include one village, but also the area between villages. The study found that the process needed to be strengthened in a formal institution. As a proof, the process started from determining the location of Panca Mandala rural area development, which was initiated by an agreement between village heads, until the establishment of PT Bumades Panca Mandala, as can be seen in Table 4.

Table 4. The Legal Umbrella for Forming the Cooperation between Villages, BUM Desa Bersama and PT. Bumades Panca Mandala

| Regulation | Number | Concerning |
|--|----------------------------------|---|
| Tasikmalaya Regent's Decree | 147/Kep.390-DPMDPAKB/2018 | Stipulation of Location for Developing Panca Mandala Rural Area in Tasikmalaya Regency. |
| Common Rules of Mandalamekar Village Head, Mandalahurip Village Head, Kertarahayu Village Head, and Papayan Village Head | 01/2015 | Cooperation in the Management of Human Resources and Natural Resources |
| Common Rules of Ciwarak Village Head, Kertarahayu Village Head, Mandalahurip Village Head, Papayan Village Head, and Mandalamekar Village Head | 01/2016 | Amendment of Permakades no 01/201 5 concerning Cooperation in the Management of Human Resources and Natural Resources |
| Notarial Deed of Heri Hendriyana, SH., MH | 223 dated 14 April 2016 | Establishment of PT. Bumades Panca Mandala |
| Decree of the Ministry of Law and Human Rights of the Republic of Indonesia | AHU-0019248.AH.01.01/2016 | Ratification of the Establishment of the Limited Liability Company of PT Bumades Panca Mandala dated 15 April 2016 |
| Business License | 503.4/2115/Kep.0395/PK/KPPT/2016 | SIUP PT Bumades Panca Mandala |
| Certificate of Company Registration | 101414200324/503.5/2116 | TDP PT Bumades Panca Mandala |
| Interference License | 503.1/2114/536/KPPT/2.351/2016 | |

Source: PT. Bumades Panca Mandala, 2021

The process of institutional development is also needed in relation to strengthening the community's economy. As has been found that Bumades Panca Mandala develops through businesses in the field of

internet provision services, and also the involvement of the youth in the villages, especially those in the villages around Panca Mandala Rural Area. TS as the secretary of Forum BUM Desa in Tasikmalaya Regency said that the youth should be recruited to run the organization. Furthermore, in the digital era the role of the youth was very important because as a part of community they were accustomed to using gadget and getting involved in the virtual world to sell the natural product potentials such as fruits, processed sweet potatoes, and promoting them through media social and other market platforms.

In the theory of community development, it is mentioned that one element of sustainable community strengthening is the production activity. The concept is the community development needs to shift from the principle of *engagement to emerge* (Olson & Brennan, 2017). This happens to PT Bumades Panca Mandala. The business institution of internet access provision which is based on youth community enables internet access services to become businesses. To provide physical infrastructure, the Telecommunications Infrastructure Network Workshop was developed. The process of this business was developed by conducting a business-to-business relation to several parties whether it was BLU in the government or that in private as an operator. This type of business was followed by renting services of multi-media apparatus and production, *Helpdesk* Sideka services to meet the villages' needs until on-line marketing. In addition, businesses were also developed to manage local resources, such as growing fruits and farming sheep. This is in line with the finding by Kasila (Kasila & Kolopaking, 2018) who stated that the level of participation of Desa Ponggok youth in BUMDes "Tirta Mandiri" had a strong relation to the level of business development in BUMDes "Tirta Mandiri". This is because the youth who were involved in BUMDes were also involved in strengthening the BUMDes institution, increasing the BUMDes member capacity, and expanding the marketing of BUMDes business product.

The findings described above strengthen the conclusion that BUM Antar Desa that gets supports from each village government through allocation of some capital for businesses from the village budget to build IT infrastructure together with ISP can encourage the community economy activities (Zakiyyah & Rahman, 2021). The positive impacts expected from the status of BUM Desa and/or BUM Antar Desa as a legal body can make business partnership easier. Therefore, this can facilitate the promotion of regional potentials, and improve the regional economy. Thus, conceptionally it can accelerate the success of National SDG's (Alfiansyah, 2021).

Institutionalization of internet provider depends on how to utilize something to improve the village community economy. This research found that BUM Antar Desa emerged as an entity to accommodate entrepreneurship activities. With this method, entrepreneurship must be in accordance with the existing norms and regulations. BUM Antar Desa as an internet service agency becomes a driving factor for local businessmen to improve the village community economy. The process was developed inclusively and supported by a partnership with another party. In line with that, the research by Pradnyani (Pradnyani, 2019) said that the role of BUMDes Gentha Persada to process the community has been realized with the business units existing in the BUMDes, such as savings and loan business unit, a garbage service, money changer, and trades. Another research said that BUMDes is one pillar of village development encouraged by the government to improve the rural community's welfare. (Chikamawati, 2015).

The overcome the infrastructure development problems on internet access in the village, the internet Service Provider (ISP) needs to innovate with the applied technology, by building infrastructure that can support internet access that is cheap and easy for the community. In the middle of 2019, BUM Antar Desa Panca Mandala joined a partnership program with Bumdes BAKTI Kominform, so that BUM Desa Bersama was allowed to open an internet access service business. This partnership program involved three institutions, namely BAKTI, BUM Desa, and the internet access provider. The aim of this program was to enable BUM Desa to create and manage a digital-based areal potential. The partnership program was aimed to improve the internet connectivity in the rural areas, to increase human resource capacity in utilizing digital technology in the rural areas, and to create a new IT-and-digital-based business in the rural areas. The Government Regulation Number 11/2021 concerning the village-owned enterprises has appointed BUM Desa to carry out a partnership program with a third party to cooperate in business and non-business activities. The Government Regulation Number 11/2021 (PP No 11, 2021) concerning the BUM Desa partnership with a private company is in line with the village regulation contained in the statutes and bylaws. (Bagus, 2020).

The legal basis for administering and developing a connectivity business from the village government to its people to carry out a partnership program between BUM Antar Desa, ISP, and BAKTI can be seen in Table 5. From the table, it can be seen that the internet service agency needs to form an institution that is able to build a cooperation with a business-to-business principle between the technical-aids-and-management receiver and its partner to conduct a community-development-based accompaniment.

Table 5. Legal Basis for Conducting Internet Access through a Partnership Program between BUM Desa, ISP, and BAKTI

| Types | Number and Year | Concerning |
|--|-----------------|--|
| Law | 36/1999 | Telecommunication (State Gazette of the Republic of Indonesia Number 154/1999, Additional State Gazette of the Republic of Indonesia Number 3881); |
| Law | 6/2014 | Village (State Gazette of the Republic of Indonesia Number 7/2014, Additional State Gazette of the Republic of Indonesia Number 5495); |
| Law | 11/2020 | Job Creation (State Gazette of the Republic of Indonesia Number 245/2020, Additional State Gazette of the Republic of Indonesia Number 6573); |
| Government Regulation | 52/2000 | Telecommunications Operations (State Gazette of the Republic of Indonesia Number 107/2000, Additional State Gazette of the Republic of Indonesia Number 3980); |
| Government Regulation | 11/2019 | Second Amendment to Government Regulation Number 43/2014 concerning the Implementation of Regulation Number 6/2014 concerning Village (State Gazette of the Republic of Indonesia Number 41/2019, Additional State Gazette Number 6321); |
| Government Regulation | 11/2021 | Village-owned-enterprises (State Gazette of the Republic of Indonesia Number 21/2021, Additional State Gazette Number 6623); |
| Regulation of the Minister of Communications and Information Technology | 15/2014 | Amendment to the Ministerial Regulation Number 11/Per/M.Kominfo/07/2010 concerning Internet Protocol Television Service Operation |
| Regulation of the Minister of Communications and Information Technology | 3/2018 | Organization and Work Procedure of the Telecommunication and Information Accessibility Agency (State News of the Republic of Indonesia Number 739/2018); |
| Regulation of the Minister of Communications and Information Technology | 10/2018 | Implementation of the Universal Telecommunication and Information Technology Service Obligations (State News of the Republic of Indonesia Number 1189/2018); |
| Regulation of the Minister of Finance | 222/2020 | Village Fund Management (State News of the Republic of Indonesia Number 1641/2020); |
| Regulation of the Minister of Villages, Development of Disadvantaged Regions, and Transmigration | 3/2021 | Registration, Data Collection and Ranking, Guidance and Development, and Procurement of Goods and/or Services BUM Desa/BUM Desa Bersama (State News of the Republic of Indonesia Number 252/2021); |

Source: Field data 2021

The findings of the research conceptually strengthened the needs for understanding the social institution and social institutional in the community development framework. The meaning of community institution refers to the formulation of the determining factors in human behavior to meet their needs, for example the value-based norms, supporting personnel, physical infrastructure, all of which become the actor guidance as an individual or organization to develop a patterned behavior (Koentjaraningrat, 1964). A social institution refers to a set of rules that govern social interactions, and knowledge about the rules is known and acknowledged by community members who then support it (Jack Knight, 1992). On the other hand, the concept of institutionalization is different from a social institution. This concept is defined as anything related to written as well as unwritten norms that involve more than one institution, such as business and marketing institutions, and financial institutions (Syahyuti, 2006).

With reference to the definition of institution, Bumades Panca Mandala is an example of institution developed from the grassroots and became an initiator of business development of BUM Antar Desa in Indonesia which runs an internet service business in the village using a partnership pattern with the party outside the village. The stages in the process of preparing the institution can be seen in Figure 1.

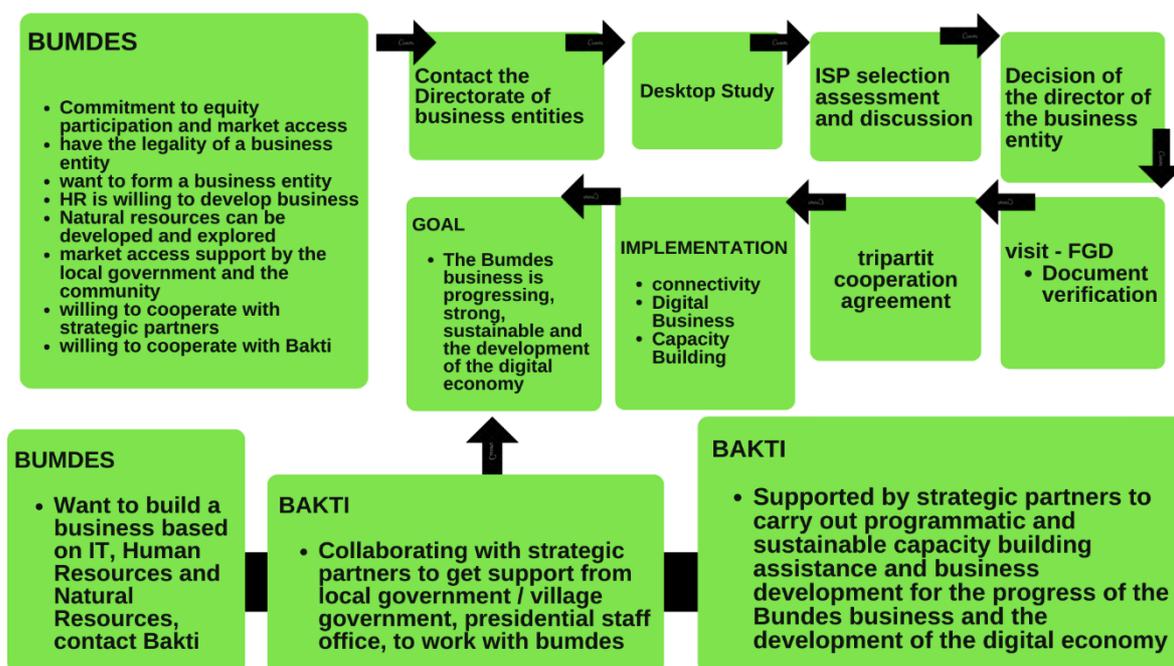


Figure 1. Stages of BUM Desa Bersama in running the BUM Desa Partnership Program. **Source:** Modification of Kominfo BAKTI Village Internet Smart Book, 2019

At the initial stage, the BUM Desa Bersama prepared an institution that would run the connectivity business. There were 8 requirements that need to be fulfilled by BUM Desa Bersama Panca Mandala if they want to provide an internet access. Those 8 requirements can be seen in Table 6.

Table 6. Eight Requirements for Inaugurating Internet Access Provider

| Description | Status | Implementation |
|--|--------|---|
| The village government commitment to provide capital and market access | Yes | Each village has allocated some fund in the village budget for infrastructure. The amount of budget allocated is 50 million rupiah. In 2018 Mandalahurip Village, Mandalamekar Village, and Papayan Village deposited some money as much as 100 million rupiah to be invested in BUM Desa Bersama. |
| Having enterprise legality | Yes | BUM Desa Bersama Panca Mandala delegated the cooperation to the third party, its business unit which is a limited liability company, i.e., PT Bumades Panca Mandala. The position of BUMDes in the Job Creation Law (UU Cipta Kerja) is a new legal business entity whose position is equal to Limited Liability and BUMN at the national level and BUMD at the regional level, as has been explained in the Elucidation of Article 117 of the UU Cipta Kerja which has changed Article 87 of the Village Law, stating that BUMDes position as a legal entity cannot be equated with companies and cooperatives. (Alfiansyah, 2021) |
| Willing to build a new IT-based business unit | Yes | BUM Desa Bersama Panca Mandala has established a legal business unit, that is PT Bumades Panca Mandala |
| HR are willing to develop business | Yes | BUM Desa Bersama provides 7 local human resources aged between 19 and 23 years old. They all come from Panca Mandala area. |
| NR can be developed and explored | Yes | There are 4 main commodities in the area that are mandated to be managed, namely animal farming, spices, woods & bamboos, and fruits (mangosteens and durians) (Manggis & durian) |
| The local government and community support for market access | Yes | One of the commodity customers is vegetable box application. |
| Willing to cooperate with strategic partners | Yes | PT Bumades Panca Mandala business unit has carried out a cooperation with various parties to make the internet service provider successful. PT. Icon Plus, PT Jembo Cable, PT HSP, Badan Prakarsa Pemberdayaan Desa, and PT Sayur Box. |
| Willing to cooperate with BAKTI | Yes | Panca Mandala Area is one that is digital based. The appointment of villages in the Panca Mandala Area is as an Integrated Broadband Villages. |

Source: Field Data (processed), 2020

After Bumades Panca Mandala fulfilled the eight requirements, it then continued building a partnership by sending a letter of interest to be part of the partnership program BUM Desa, ISP to the Director of Information and Communication Services of BAKTI. The letter is then responded by BAKTI through Desk Study by checking the Bumades Panca Mandala files concerning the readiness to build infrastructure for telecommunications network in the working area of Bumades Panca Mandala. The Desk Study simultaneously identified the company or the internet service provider in the area of Panca Mandala. The stages followed Bumades Panca Mandala after sending the letter of interest to BAKTI can be seen in Table 7.

Table 7. Stages and Activities carried out by PT. Bumades Panca Mandala through a Partnership Program of BUM Desa, PT. SIMS, and BAKTI

| Stages | Executor | Implementation |
|---|---------------------------------|--|
| Preparation for completing documents to meet the 8 institutional requirements of BUM Desa Bersama Panca Mandala | BUM Desa Bersama | Documents |
| Letter of Interest of BUM Desa Bersama to be involved in the partnership program with ISP and BAKTI | BUM Desa Bersama | Letter of Request directed to Director of BAKTI for BU service (to facilitate BUM Desa, BAKTI has prepared a letter form to be completed by BUM Desa Management, or BUM Desa management writes the Letter of Interest in accordance with its institutional form, this is then sent to BAKTI) |
| <i>Desk Study</i> | BAKTI | BAKTI responds to the Letter of Interest from BUM Desa by conducting identification of the availability of internet network infrastructure and the existence if ISP that conducts the internet service business activity at Panca Mandala Area or the nearest location to the area. In terms of identifying ISP, BUM Desa Bersama can suggest or let BAKTI know that there is an ISP candidate. This makes it easier for BAKTI to seek the candidate. |
| Assessment and Discussion for ISP selection | BAKTI | BAKTI carries out a series of meetings and discussion with the ISP candidate, one of which is PT SIMS which is interested to carry out business activities, and makes sure that the ISP is willing to cooperate with BUM Desa Bersama which is interested in the partnership program |
| ISP Selection | BAKTI | After the ISP which is willing to work in the Panca Mandala Area is obtained, Director of BAKTI for BU services issues a decree concerning PT SIMS which is willing to cooperate with BUM Desa Bersama. |
| Visits and FGD at BUM Desa Bersama | BAKTI and BUM Desa Bersama | BAKTI carries out a number of visits to BUM Desa Bersama location and Focus Group Discussion, attended by the representative of PT SIMS to discuss together the readiness of BUM Desa Bersama institution (factual document verification is prepared by BUM Desa Bersama), and the readiness of ISP techniques to build the main network to BUM Desa Bersama location. In these series of meetings and FGDs, they also discussed anything related to rights and obligations if PT Bumades Panca Mandala and PT SIMS are interested to cooperate. |
| Signing of the Tripartite Cooperation Agreement | BAKTI, BUM Desa Bersama and ISP | BAKTI facilitates the meetings and FGDs between PT Bumades Panca mandala and PT SIMS to discuss the PKS tripartite draft which is signed by Director of Bumades Panca Mandala, Director of PT SIMS, and Director of BAKTI for BU services which is located in the BAKTI Office, Menara Merdeka Bld, 9 th FL, Jalan Kemulyaan III, RT02/RW03, Gambir, Jakarta. 10110. The signing was carried out on September 6, 2019. |

| Stages | Executor | Implementation |
|--|---------------------------------|--|
| Implementation of Connectivity, Digital Business, and Capacity Building | BAKTI, BUM Desa Bersama and ISP | <ul style="list-style-type: none"> - A series of offline and online meetings attended by Technical Team of PT SIMS and PT Bumades Panca Mandala to make the planning for building the main network, the selection of the main network to be used, the village government readiness to provide budget, and the formation of team for internet service provider under PT Bumades Panca Mandala. - Basic training started from planning, building tower, installing tower, installing the main network tools, and installing micro tic. - Building the internet network infrastructure using a radio link technology. Preparation of tower and radio tools, and installment have been carried out up to now. - Trainings and practices for the BUM Desa Bersama administrators and managers on how to utilize connectivity such as online marketing application, multi-media production, and use of social media. - Increasing the capacity to improve the skill and knowledge about networking and increasing the capacity of BUM Desa Bersama Institution. |
| Internet Access Service is running. Digital-based business activity is running | BUM Desa Bersama, ISP | <p>Nowadays PT Bumades Panca mandala and PT SIMS have built and served customers from Village office, schools, houses, stalls/UMKM. The bandwidth capacity managed per July 2021 was 400 Mbps.</p> <p>PT Bumades Panca Mandala also built a business mandated by MAD Panca Mandala, that is a group-based animal farming.</p> |

Source: Field Data (Processed), 2020

Study on the process of this institutionalization development found that Bumades Panca Mandala as a business unit entity of inter-village cooperation in the Panca Mandala Area, carries out a partnership program with PT SIMS (Sarana Insan Muda Selaras, located in Jakarta) as an ISP and BAKTI. This partnership was carried out officially through the signing of Tripartite Cooperation Agreement on Friday, September 6, 2019, at BAKTI Office, Menara Merdeka Bld, Jakarta.

To implement an internet access network in the village, one thing that needs to be carried out is determining the location or a place that will become the backbone or the internet drop point to Panca Mandala Area. PT SIMS decided that the main network used would be located at the Papayan Village Office as bandwidth drop with a capacity of 200 Mbps. From the Papayan Village Office, it is then transmitted to the main BTS (Base Transceiver Station) of Panca Mandala Area at Pasir Bentang using 2 devices (*air fiber* as the main network, and *microwave* as a back-up network), both of which used *radio link*. The location that is used as backbone is determined so that it can cover all locations in the area. In case there is one that is not connected, a survey on the location or a new point is conducted.

From BTS Pasben, the internet access is distributed to every village office in Panca Mandala, whose tower is previously built. Then from each village office PT Bumades distributes the bandwidth to customers, as can be seen in Figure 3, namely backbone or in the network that becomes the center to transfer data from one network. Backbone in the network is usually used to connect local network such as LAN in order to reach a wider area to form WAN. Backbone in the network has high-speed reaching 10 Gbps because it is designed with a transmission media like optic fiber, satellite, and also microwave. The devices used to build backbone are (1) using optic fiber media/wireless/satellite, and (2) with reference to the topology figure above, using FO media and wireless.

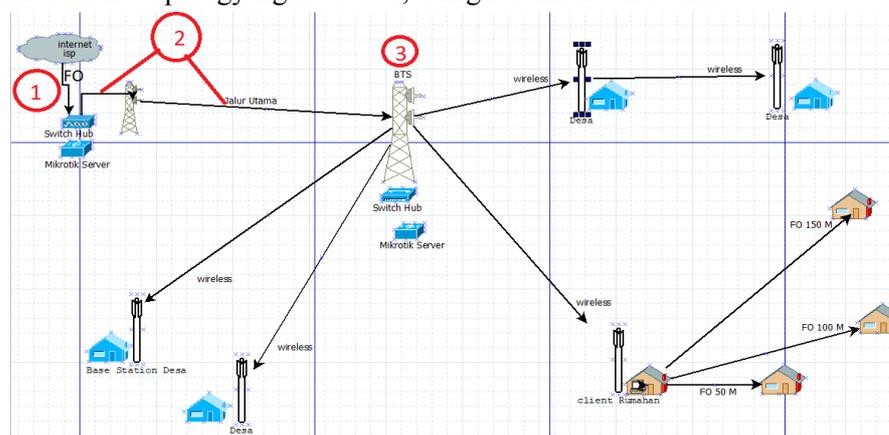


Figure 2. The Backbone topology of Panca Mandala Area and internet access services.

Source: PT Bumades Panca Mandala, 2020

When the research was carried out, Bumades Panca mandala had already had an Information Technology Team consisting of 9 persons. They were recruited from the youth in the villages joining BUM Desa Panca Mandala. They were continuously trained to organize internet access independently in Panca Mandala Area. There are two types of internet services Bumades provides in the partnership program; they are postpaid subscription and prepaid subscription. The name of both services is Desa media Net, called DEMEN. Postpaid subscription is a type of service given to customers who pay it in a period of time, with a variety of amount in accordance with the service product provided by Bumades Panca Mandala. When the number of postpaid customers was counted, there were 112 customers consisting of 52 houses, 23 village offices, 4 schools, and 21 stalls with 200 Mbps bandwidth capacity. The prices offered by DEMEN team started from 150,000 rupiah until 500,000 rupiah per month depending on its bandwidth capacity. The number of regular customers increased rapidly compared to when the internet access program was started (DBT) at Panca Mandala Area. There were only 6 customers with VSAT technology. When BAKTI started to install internet access in Panca Mandala Area, the capacity of bandwidth was only 12 Mbps. Now in July 2021 Bumades Panca Mandala managed 400 Mbps.

The second choice is prepaid subscription. It means that Bumades Panca mandala and PT SIMS locate hotspots points that can be accessed by community. The hotspots simultaneously function as kiosks that sell prepaid packages in the form of vouchers. The price offered starts from 2,000 rupiah per two hours until 10,000 rupiah per 6 hours. The mechanism from the prepaid subscription is a kiosk manager gets profit sharing from the voucher sales, in which PT Bumades Panca mandala gets 75% and the kiosk manager gets 25%.

The results of in-depth interview with various parties that were involved in the partnership program, BUM Desa, ISP, and BAKTI, to carry out connectivity services, connectivity utilization, and increased capacity can be seen in Table 5. The increase of the number of internet access users, the availability of employment, the availability of skillful workers in managing internet access network, increased capacity of BUM Desa Bersama institution, the growth of community new business, and the trust from the third party are examples of the BUM Desa partnership program's success initiated by BAKTI.

Some problems occur, such as the type of service given, complaints to the customer service, especially because of unstable network. There are many factors that cause unstable network. These are discussed in Table 8.

Table 8. Response from BUM Desa Bersama (PT Bumades Panca mandala, PT SIMS, and BAKTI) concerning Problems of Internet Services.

| Problems | Related Party | Notes |
|-------------------|---------------|--|
| Unstable network | PT. SIMS | The unstable network is caused by the disturbance in the backbone from the drop point BTS Papayan to the BTS Utama Pasben. There are many causing factors: first of all, the electricity supplying BTS often goes out. Every day there is often power outage due to weather disturbance or maintenance. The biggest impact is the interference of the installed microwave and air-fiber devices. Secondly, the main network of radio link is often cut off or disturbed if it rains or windy. Thirdly, the capacity of bandwidth managed by PT Bumades Panca Mandala was only 100 Mbps; now it becomes 200 Mbps and then 400 Mbps (a digital village program aid from the Governor of West Java). The recommendation from BUM Desa is PT. SMS should build an optic fiber network from the main network to the server location at the office of PT. Bumades Panca Mandala. PT. SIMS and PT. Bumades Panca Mandala build an optic fiber network from the BTS utama Pasben office/server as long as 2 km. |
| Limited bandwidth | PT. SIMS | PT. SIMS prepares a bandwidth with adequate capacity to meet the customers' demand. |

| Problems | Related Party | Notes |
|--|--|---|
| No network management expert | BUM Desa Bersama and PT. SIMS | Up to now, the management of the main network to the Panca Mandala Area is controlled remotely PT. SIMS still has its main network expert in Yogyakarta City. Therefore, the problem of main network is still tackled by the technical team whose knowledge is merely obtained from experience and YouTube. The recommendation from BAKTI to PT. SIMS is ISP must place its expert immediately at PT. Bumades Panca Mandala to manage network and to transfer knowledge and technology according to their rights and obligations in the PKS Tripartite. BAKTI and PT. SIMS will carry out training on capacity building in line with the field needs proposed by PT. Bumades Panca Mandala to BAKTI and PT. SIMS. PT. Bumades Panca Mandala prepares human labor focusing on the network management while PT. SIMS will prepare the expert. |
| The availability of capital for new customer's installment | PT. Bumades Panca Mandala and the Village Government | A radio technology needs a lot of working capital. Each installment of a new subscription needs 2-3 million rupiah. This certainly needs working capital from the village government. The initial capital is used for building infrastructure from the tower, radio devices, optic fiber, tools, to office needs. PT. SIMS as the provider for bandwidth, technology and operational management has just provided with bandwidth. This is often discussed in meetings between PT. SIMS and PT. Bumades Panca Mandala to equally contribute to working capital every time there is a new subscriber. The recommendation from BAKTI to PT. SIMS and PT. Bumades Panca Mandala is both institutions must sit together to find solution for funding and business plan to increase the number of subscribers that are still on the waiting-list. The suggestion from PT. Bumades Panca Mandala to BAKTI is to find solution for funding to connect them to investors. |
| DEMEN Team Institution | BAKTI | BAKTI facilitates building capacity of the BUM Desa Bersama Institution in managing and utilizing independent internet. The institutional capacity of DEMEN and BUM Desa Bersama is a sustainable key to provide a partnership connectivity of BUM Desa and ISP. The recommendation from PT. SIMS to PT. Bumades Panca Mandala is BUM Desa Bersama builds three institutional strategies in running IT business, namely internet access service business, service management to meet partner's needs (now being developed to become inter-partnership in the digital village program of West Java), and finally building cooperation with the third party to share experience in managing connectivity in Indonesia |

Source: Field Data (processed) 2020

The second finding from this research is development of PT Bumades Panca Mandala as an internet provider institution in the village is in the category of "Developed", based on the index calculation of the 6 composite indicators, with a score of 23.5 of the total score (30.0) or average 3.9 of the totals 5.0, as can be seen in Table 9.

Table 9. Calculation of BUM Desa Bersama Panca Mandala Progress of the Six Determinants of Evaluation

| Determinant of Evaluation | Total Score | n | Average |
|--|-------------|----|------------|
| Achievement of Vision and Mission | 740 | 30 | 4.1 |
| Suitability of Objectives and Strategies | 525 | 30 | 4.4 |
| Quality of HRD | 472 | 30 | 3.9 |
| Level of Planning | 686 | 30 | 3.8 |
| Level of Management | 554 | 30 | 3.7 |
| Financial Condition | 541 | 30 | 3.6 |
| Total | | | 23.5 |
| Average Score | | | 3.9 |

Source: Field Data (processed), 2021. Note: Category Not Very Developed $x \leq 2.00$; Not Developed $2.01 < x \leq 2.60$; Less Developed $2.61 < x \leq 3.30$; **Developed** $3.31 < x \leq 4.00$; and Very Developed $4.00 < x$.

Two of the six factors of PT. Bumades Panca Mandala belong to the "Very Good" category. First, the result of the average score for achieving the vision and mission is 4.1 (above 4), and the second the activity carried out is in line with the objective and strategy determined. Sixty-seven percent (67%) out of 30 respondents who completed the questionnaires consider the vision and mission achievement of BUM Desa Bersama "Good", and 22.2% stated "Very Good", as can be seen in Table 10.

Table 10. Number and Percentage of Respondents' Assessment and the Average Score of Vision and Mission Achievement

| Evaluation on BUM Desa Community Development | Category (score) | Number (n) | Percentage (%) | Total Score |
|---|-------------------------|-----------------------|---------------------------|------------------------|
| Vision and Mission Achievement | Very Poor (1) | 0 | 0 | 0 |
| | Poor (2) | 2 | 1.1 | 4 |
| | Fairly Poor (3) | 16 | 8.8 | 48 |
| | Good (4) | 122 | 67.7 | 488 |
| | Very Good (5) | 40 | 22.2 | 200 |
| | Total | | 180 | 100 |
| | Average Score | | | 4.111 |

Source: Field Data (Processed), 2020

BKAD management, the co-founder of Kerjasama Antar Desa, and the Operational Executive of BUM Desa Bersama said that the vision and mission achievement is "Good". Undang as the Secretary general of BKAD said that the name and activity of Panca Mandala has now been known from the area level to the national level. He admitted that the vision and mission of Bumades Panca mandala is only known among the village elite. He had the opinion that it needs to be internalized to the village community at large. This is approved by the village heads in Panca Mandala Area who took part in the workshop on the facilitation method of *Technology of Participation* known as the TOP program.

Based on the data from questionnaires it is known that the suitability of objectives and strategies is in the "Very Good" category with an average of 4.4. according to the working group coordinator of BKAD Panca Mandala (EMY) mentioned that Bumades Panca Mandala has run the business in line with the initial plan of establishing the institution. The problems of internet connectivity has been handled, especially in the village office. From his knowledge nowadays the public service center such as *Posyandu*, the village officers' house, and location for activities of the village government have already had internet access. Another objective achievement is BUM Desa Bersama has started its business to optimize the potential of the area such as farming business and help connect mangosteen farmers to communicate with exporters. There is 46.6% of the 30 respondents who rated Bumades Panca Mandala activities "Very Good" in achieving the objectives that are in line with the strategies, other 45% rated "Good" (Table 11).

Table 11. Number and Percentage of Respondents' Assessment and the Average Score on the Suitability of Objectives and Strategies

| Evaluation on BUM Desa Community Development | Category (score) | Number (n) | Percentage (%) | Total Score |
|---|-------------------------|-----------------------|---------------------------|------------------------|
| Suitability of Objectives and Strategies | Very Poor (1) | 0 | 0 | 0 |
| | Poor (2) | 1 | 0.8 | 2 |
| | Fairly Poor (3) | 9 | 7.5 | 27 |
| | Good (4) | 54 | 45 | 216 |
| | Very Good (5) | 56 | 46.6 | 280 |
| | Total | | 120 | 100 |
| | Average Score | | | 4.375 |

Source: Field Data (Processed), 2020

Four out of the six factors used as the determinants of Bumades Panca Mandala development belong to the "Good" category. The four factors are Human Resource Quality (score: 3.9), Planning Stage (score: 3.8), Management Level (score: 3.7) and Financial Condition (score: 3.6).

The quality of human resources of Bumades Panca Mandala was evaluated by 55% of the 30 respondents to be in the "Good" category. The management, especially the managers have shown a good performance. In spite of that, another interesting thing is there are some who considered the quality of human resources "Poor" (Table 12).

Table 12. Number and Percentage of Respondents' Assessment and the Average Score of the Quality of Human Resources

| Evaluation on BUM Desa Community Development | Category (score) | Number (n) | Percentage (%) | Total Score |
|---|------------------|---------------|-------------------|----------------|
| Quality of Human Resources | Very Poor (1) | 0 | 0 | 0 |
| | Poor (2) | 2 | 1.6 | 4 |
| | Fairly Poor (3) | 28 | 23.3 | 84 |
| | Good (4) | 66 | 55 | 264 |
| | Very Good (5) | 24 | 20 | 120 |
| | Total | | 120 | 100 |
| Average Score | | | | 3.933 |

Source: Field Data (Processed), 2020

According to the informant the "Fairly Poor" category was given to the employment recruitment whose process was not conducted through selection. This is because of the lack of training given to the employees. Therefore, when they joined Bumades Panca Mandala they did not have any experience. The lack of selection process in the recruitment was also admitted by the operational director. According to him, the recruitment process has not been conducted ideally because in Panca Mandala Area there not many young people who want to work in the village. Therefore, it was decided to accommodate the young people in the village to be trained and to work.

Another factor considered to be "Good" is the Planning Level (score: 3.8). There are 45.5% of the 30 respondents who considered it "Good", and 30.5% considered it "Fairly Poor" (Table 13). This is because Bumades Panca Mandala has not yet had the planning document, although the activity ideas and implementation can be seen in the web.

Table 13. Number and Percentage of Respondents' Assessment and the Average Score of Planning Level

| Evaluation on BUM Desa Community Development | Category (score) | Number (n) | Percentage (%) | Total Score |
|---|------------------|---------------|-------------------|----------------|
| Planning | Very Poor (1) | 1 | 0.5 | 1 |
| | Poor (2) | 6 | 3.3 | 12 |
| | Fairly Poor (3) | 55 | 30.5 | 165 |
| | Good (4) | 82 | 45.5 | 328 |
| | Very Good (5) | 36 | 20 | 180 |
| | Total | | 180 | 100 |
| Average Score | | | | 3.811 |

Source: Field Data (Processed), 2020

Three informants from Bumades Panca Mandala management consider the Planning level is still "Good" because not all the employees are involved in the planning stage of each team or division. There are many new employees who do not know the details of the activities of each team. This is because they are not involved directly in the making of the planning. Another thing is because it is the management' responsibility to make a plan for each business unit team. The informant even considers the planning process is still a *top-down* nature.

The result of the evaluation determinants for management level is "Good" (score: 3.7). Respondents' evaluation for the management level is almost similar to the determinants for the planning level, 31.3 out of 30 respondents consider it "Fairly Poor". There is 59.3% and 6.6% of the respondents consider "Good" and "Very Good" respectively. However, there is 2% of respondents who consider it "Poor", and even 0.6% consider it "Very Poor" (Table 14).

According to the informant, the reason for those who consider it "Poor" is because job distribution and appreciation for each employee is not fair. For example, some employees do not work hard to build internet infrastructure, but the incentive they get is the same as those who work hard in the field. This is regarded that the management do not fully comply with an even job division.

Table 14. Number and Percentage of Respondents' Assessment and the Average Score of Management Level

| Evaluation on BUM Desa Community Development | Category (score) | Number (n) | Percentage (%) | Total Score |
|---|-------------------------|-----------------------|---------------------------|------------------------|
| Management Level | Very Poor (1) | 1 | 0.6 | 1 |
| | Poor (2) | 3 | 2 | 6 |
| | Fairly Poor (3) | 47 | 31.3 | 141 |
| | Good (4) | 89 | 59.3 | 356 |
| | Very Good (5) | 10 | 6.6 | 50 |
| | Total | | 150 | 100 |
| Average Score | | | | 3.693 |

Source: Field Data (Processed), 2020

The sixth factor for determining the development of Bumades Panca Mandala is the financial condition. This factor is considered to be "Good" (score: 3.6). About 58.6% of respondents consider the financial condition is "Good", and the rest varies. What needs to be attended to is those who said that the financial condition of Bumades Panca Mandala is "Fairly Poor" (28% of 30 respondents) and "Poor" (7.3%) (Table 15).

Table 15. Number and Percentage of Respondents' Assessment and the Average Score of Financial Condition

| Evaluation on BUM Desa Community Development | Category (score) | Number (n) | Percentage (%) | Total Score |
|---|-------------------------|-----------------------|---------------------------|------------------------|
| Financial Condition | Very Poor (1) | 1 | 0.6 | 1 |
| | Poor (2) | 11 | 7.3 | 22 |
| | Fairly Poor (3) | 42 | 28 | 126 |
| | Good (4) | 88 | 58.6 | 352 |
| | Very Good (5) | 8 | 5.3 | 40 |
| | Total | | 150 | 100 |
| Average Score | | | | 3.606 |

Source: Field Data (Processed), 2020

The Finance Manager admitted that there are still a lot of shortcomings in financial management. Besides the lack of human resources, the ability and disciplinary of the employees to complete good financial reports are still lacking. As a result, the operational financing services to the business unit are also limited.

The third finding of the research is the existence of internet provider institution in villages keep developing in line with the norms rooted in the social values that are known and live in the village community. Meanwhile, Wahyono (Wahyono, 2011) said that the building of Information Village will work out if it is carried out with good planning, especially in its institutional aspect which is expected to manage the program.

Based on the FGD, the strategy that needs to be adopted by Bumades Panca Mandala is the Progressive Strategy. Bumades Panca Mandala needs to strengthen internally to overcome problems as well as to utilize challenges and opportunities that exist in the internet provision businesses in the villages, especially in the development of digital community and villages in Indonesia.

Bumades Panca Mandala needs to maintain the activity sustainability as an example of an institution that is involved in providing infrastructure and strengthening the community capacity in using internet in villages. It is a form of business that needs to pay attention to the norms and the behavior of the village community.

Based on the activities in the workshop with TOP facilitation method, it can be concluded that the strategy that has been formulated needs to be developed in a program to maintain its vision, mission, objectives and improvement mechanism in financial management for the next three years so that Bumades Panca Mandala will develop into "Very Developed" (Table 16).

Table 16 Program Name based on Execution Time and the Person in-charge of Bumades Panca Mandala Development 2021-2023

| No. | Description | Time | | | PIC |
|-------------------------------|---|------|------|------|---------|
| | | 2021 | 2022 | 2023 | |
| Internal Reinforcement | | | | | |
| 1 | Training series of HRD Quality Improvement | █ | █ | █ | Rudi |
| 2 | Improvement of <i>Standard Operation Procedure</i> in activity implementation and procurement | █ | █ | █ | Rudi |
| 3 | Bandwidth Increase Peningkatan Bandwith | █ | █ | █ | Tutus |
| 4 | Building Backbone FO to BTS Utama | █ | █ | █ | Tutus |
| 5 | Improvement on Financial Management and Addition of Capital Working | █ | █ | █ | Solihin |
| 6 | Customer Complaint Handling | █ | █ | █ | Ilman |
| External Reinforcement | | | | | |
| 1 | Promotion of Internet Access Service Expansion | █ | █ | █ | Solihin |
| 2 | Institutional Improvement in the village and district level | █ | █ | █ | Rudi |
| 3 | Partnership of networking device procurement | █ | █ | █ | Ilman |

Source: Data of TOP Facilitation Analysis (Processed, 2021)

From Table 16 it can be seen that there are 9 programs designed in line with the Progressive Strategy from Bumades Panca mandala, 6 programs of which are for internal reinforcement and 3 programs for external reinforcement. These are the results of the workshop on the TOP facility method. The workshop started with a participative evaluation activity and collected inputs from various interested parties in developing the institution of internet access providers during the period 2021-2023.

In the workshop it is recommended that the programs managed must be able to connect the relation between people and the institution by paying attention to the norms that become a guidance for village community. For that reason, to improve the quality of human resources, we must pay attention to the persons who will formulate the planning and manage the implementation. Besides, the development of infrastructure, such as office, working facilities and technology must be available to support the operation of the activities; the internet connectivity must be better for the villages, especially in the rural area of Panca Mandala.

CONCLUSION

The process of institutional development for internet provider in the village started from the government officials who need to overcome a regional isolation. The initiation carried out was not separated from the cooperation development among villages in the rural area. This cooperation is called Kawasan Pedesaan Panca Mandala (Panca Mandala Rural Area) established based on equal potentials, equal problems, and equal needs of solution for improving the community welfare. This process encouraged the youth to take part in managing and developing BUM Antar Desa as an institution for the youth community economy. The internet service institution for villages needs to have a formal legal enterprise; therefore, through a legal limited enterprise called Bumades Panca Mandala they develop a partnership cooperation with various parties, in the form of technical assistance and management, and they make an agreement with a *business-to-business* principle.

The development level of Bumades Panca Mandala based on the composite index calculation, of the six indicators (vision and mission achievement, suitability of objectives and strategies, human resource quality, planning level, management level, and financial condition) showed that it is in the "Developed" category. During the research, Bumades Panca Mandala was able to provide internet infrastructure and develop a digital community to strengthen the formation of digital villages. Bumades Panca mandala needs to strengthen internally to overcome problems and to simultaneously make use of existing challenges and opportunities in order to provide internet in villages, especially to welcome the development of communities and digital villages in Indonesia.

In order to maintain and increase Bumades Panca Mandala achievement in the future, a new strategy has been found, namely the Progressive Strategy. As an enterprising institution, Bumades Panca Mandala needs to develop programs that are based on that strategy by considering social institutions with standard norms on the known and living social values as a guidance for the village communities. Therefore, it is necessary to pay attention to the increase of human resources or people who are formulating and managing the implementation. The development of infrastructure such as offices, working facilities, and technology to support the operation of the business activities for internet connectivity needs to be improved for the villages to be developed, especially in the rural areas, with the principle of community and digital villages development in Indonesia.

To conclude, this research can strengthen the importance of the village government awareness and involve the community, especially the youth, to develop their villages. The involvement of the village youth in managing and developing BUM Antar Desa institution is aimed at sustaining the BUM Antar Desa as employment for the youth.

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Our gratitude is directed to the village heads and the community in Panca Mandala Area, Information and Telecommunications Access Agency (BAKTI), and PT. Sarana Insan Selaras (SIMS) who have proved that the collaboration between village community and the government could give direct impacts on the businesses initiated by the community.

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