Transforming Rural Economy Through Community-Based Tourism with Village-Owned
Enterprise (BUMDES, Badan Usaha Milik Desa) - A Case Study: Cibiru Wetan, Pagerwangi and Cipamekar Villages, Indonesia

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1. INTRODUCTION

Developing villages in Indonesia has a certain paradigm that needs to be changed. Each village in Indonesia receives annual funding of Rp1 billion to reduce poverty and to improve roads, buildings, irrigation, and people's welfare [1-3]. Based on OECD [4], it would be necessary to introduce a new perspective on village development governance that is currently focusing on agriculture. Assets valorization and resource optimization are required so that villages not only rely on agricultural subsidies. In this case, a conflict resolution in the form of transformation is needed [5, 6]. Villages are required to have long-term and short-term goals specified in a medium-term rural development plan (RPJMDes, Rencana Pembangunan Jangka Menengah Desa), proposing a better village with greater vision and quality in the future [7].

In villages, poverty and underdevelopment are inseparable from public policies issued by local officials. Policies that are not regulating economic growth will increase unemployment, urbanization, poverty, and crime rates in villages and cities [8], [9]. Sustainable Development Goals (SDGs) commit that there will be ‘no one left behind’ [10]. Gaps between rural and urban areas need to be continuously reduced by various transformative efforts. SDGs plan to increase public involvement to make a scenario plan [11]. Through funding, agricultural, mining, plantation, and marine sectors should solve the village’s economic problems [12, 13]. Policies issued by the local government must be in harmony with SDGs [14].

Economic transformation is a change in the economic structure from the low added value to high added value, employment shares, and final consumption expenditure shares that stimulate the emergence of a variety of economic activities [15]. These activities will increase job opportunities, income, and family economic resilience. Economic transformation in rural areas can be accelerated by improving its tourism potential. Tourism villages can be a driving force to improve other economic sectors and are considered to have a significant impact on improving the rural economy through sustainable tourism [16, 17].

Tourism is a traveling activity to a place that is not the original place of residence, to spend a night or several nights to gain experience in different places, different people, and different attractions or also called a combination of dynamic elements (the journey) and static elements (the stay) where both are related to the movement of the destination out of the place of residence [18]. It can be argued that nature is the main capital that cannot be replaced. According to the United Nations World Tourism Organization report, ecotourism has contributed 10-15% to the tourism industry and is still growing rapidly [19, 20]. In this matter, destination competitiveness can be improved by marketing, development planning, and management to produce unique tourism and community assets,
strong local and regional tourism networks, and effective plans and strategies that can follow trends [21].

To optimize tourism, its management needs to be done through a Community-Based Tourism (CBT) approach so tourism can improve the community living standards in terms of economic, social, cultural, environmental, and political aspects [22-24]. To realize CBT, digital technology and ICT are required to increase business transparency, improve marketing, and collaborate with tourism and marketplace actors [25, 26]. To enhance the success rate of CBT, the penta-helix principle between community, higher education, company, government, and mass media needs to be established [27].

Business model canvas is a method of business design that is often used by start-ups and undeveloped businesses. According to Osterwalder and Pigneur [28], nine blocks, which are customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure, have specific relationships [29, 30]. In developing the model, a user perspective is needed so the business would meet customers’ demands. The business model canvas is comprehensive, effective, and easy-to-use because the solutions are presented through figures and constructively agree on decisions from various alternative solutions [31].

Several studies on community based tourism have been carried out with various perspectives and approaches [24, 32, 33] focused their research results on the perspective of local communities (involve of community individuals) in order to realize sustainable tourism village development. Base on [34], some of barriers and the difficulties of implementing CBT in local/rural communities were that they did not understand and were skilled in planning and governance so that there was often disharmony among stakeholders, even according to Khandaka and Muzahid [35] that social capital and skills were prerequisites in implementing CBT. To succeed in CBT development, it was necessary to support a policy of decentralization of wider administrative area so as to reduce the level of inequality [22]. Through development management strategies, CBT will be realized [36]. In addition, from other studies, CBT was evaluated based on the criteria of community size, equitable profit sharing, good governance, strong support from internal and external parties, sustainable destinations (uniqness), and the existence of environmental conservation efforts [37, 38].

The contribution of CBT in improving the rural economy is very broad. Based on research by Johnson [39] and Hafsa [40], CBT can help increased job opportunities and provide fair profit sharing for each stakeholder, including in reducing poverty levels. Based on Fadina et al. [41], even in Malaysia, CBT was mostly contributed through the home stay enterprises approach. The role and function of improving the welfare of rural communities and reducing poverty in the rural sphere is one of the tasks of the village economic institution, namely BUMDES.

Researching in depth about BUMDES as an entity that plays an important role in improving the village economy is a strategic topic, especially the development of villages that become tourist destinations. There are many potential villages that can be encouraged and promoted to become tourist destinations in Indonesia, including Cibiru Wetan, Cipamekar and Pagerwangi Village. BUMDES with the authorities need to intervene and develop the local economy as mandated by Government Regulation (PP, Peraturan Pemerintah) number 11 of 2021 that BUMDES needs to take advantage of all efforts so that the potential of local resources can improve the economy of local communities. BUMDes duties also include unlocking village potentials to create job opportunities through alternative industries. BUMDES also has a task to improve village income (PADes, Pendapatan Asli Desa), socio-economic, and welfare [42]. With its capacity, BUMDES is expected to improve rural community economic conditions [43].

Industrial revolution 4.0 can also influence village economic activities. McKinsey found that 45% of jobs will be automated and 32.5% of jobs in the UK and Germany will be replaced by robots. Therefore, product innovation is required to develop accordingly. In a rural context, innovation can be encouraged by educating farmers, promoting arts and culture, and boosting tourism to improve products and services [44].

As villages, Pagerwangi, Cibiru Wetan, and Cipamekar have excellent economic potential, especially in tourism that has been managed directly by BUMDES and private parties. Pagerwangi has Gunung Batu, Dulang, Puncul, and Bukit Teropong offering beautiful natural scenery and fresh air, which is perfect for cafés and ecotourism. On the other hand, Cipamekar has Sirah Air Cipelang offering many springs with a great atmosphere. Meanwhile, Cibiru Wetan has an attraction called ‘Tangga Seribu’ or translated as ‘thousand stairs’ to show its gorgeous mountain scenery.

Regardless of its potential, the current management is still poor at being able to improve the villages economy through tourism. Therefore, a proper business model and direction are necessary to unlock the tourism potentials of the said villages. This study explains the efforts that have been taken to unlock and explore each village's potential. The results are presented in a form of a business model canvas (BMC) that will be implemented by BUMDES.

2. METHODOLOGY

This action research employed a case study approach. According to Babbie [45] and Yin [46], a case study focuses on the characteristics of the study object that will be contextually generalized in a wider area. Participatory planning was also employed in this study. It is argued that without participatory planning, sustainable tourism development is impossible [47]. Consideration from Habermas [48] stating that mutual understanding is required in planning was also taken into account.

The primary data were collected using surveys in the form of community-based business model canvas workshops and semi-structured interviews with the village heads and BUMDES administrators, by selecting respondents using purposive sampling. On the other hand, secondary data were collected by analyzing the Village Medium-Term Development Plan (RPIMDes, Rencana Pembangunan Jangka Menengah Desa), Memorandum of Association/Articles of Association (AD/ART) of BUMDES, and other supporting documents.

BUMDES Team, Tourism Awareness Community (Pokdarwis, Kelompok Sadar Wisata), Family Welfare Movement (PKK, Pemberdayaan Kesejahteraan Keluarga), Village Consultative Body (BPD, Badan Permusyawaratan Desa), youth organizations (Karang Taruna), and tourism object managers from private sector. Figure 1 shows the stages
and regulations during the workshop, starting from the socialization of BMC understanding to the data reduction process in its conclusion. Workshop regulations are shown on Figure 1, where flows of activities are made to prevent certain factors of interest and to realize proposals based on community participation, not dominated by certain parties.

Figure 1. Steps of BMC workshop base on participatory approach

In processing and analyzing data, this study uses a qualitative-descriptive approach, whereas for Potential problems that might arise in this study were analyzed priorly using SWOT analysis. As it has been stated before, the BMC method was adopted to determine the model. According to Osterwalder and Pigneur [28], participants are required to agree on nine blocks of business model (customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure). All participants must be given the same opportunity to express their ideas and opinions so that they become a collective opinion that can be obtained from communicative planning [48].

3. RESULTS AND DISCUSSION

3.1 Potentials and problems

Based on the analysis, it was found that each village could develop its tourism potential to boost its economy. Other than tourism, agricultural products, clean water, local culture, creative economy, and waste processing can also be considered as their potential. However, these villages complained about the quality of their human resources, governance, capital, facilities, and marketing. The following Table 1 presents the potential and the problem faced by each village.

The following is an explanation of each potential and problem experienced in the villages of Pagerwangi, Cibiru Wetan and Cipamekar.

3.2 Business model canvas

The assessment had decided the theme of each village. Participants have decided to develop their villages to be tourism villages. Therefore, the developed BMC put more emphasis on the theme of a tourism village.

The stakeholders have decided that the tourism spot for Cipamekar is Sirah Air Cipelang, Cibiru Wetan is Seribu Tangga, and Pagerwangi is its macro tourism objects (Punchat, Dulang, Gunung Batu, Bukit Teropong). In addition, nine blocks of business model canvas were chosen as follows:

3.2.1 Customer segment

It has been decided that the main customer segment is millennials, followed by mothers, children, and the elderly. However, foreign tourist is still open for discussion. The customer segment needs to be determined to be the basis for BUMDES to make activity attractions at tourist objects. Each village agreed that the tourists targeted were young people in the age range of 15-65 years. Especially from the community of mothers and teenagers.

| Table 1. Potential and problem of the villages |
|-------------------------------|---------------|---------------|---------------|---------------|
| Inventory (Self-Assessment)  | Cipamekar     | Cibiru Wetan | Pagerwangi    | Information   |
| Village Development Status (independent) | x              | v             | v             | Cipamekar is indexed as a developed village |
| Natural tourism object       | v              | v             | v             | Outdoor tourism |
| Drinkable water management   | v              | x             | v             | Organized by BUMDES |
| Paddy view                   | v              | x             | v             | Termes type |
| Furniture industry           | v              | x             | x             | Furniture industry |
| Local culture                | v              | x             | v             | Art & performance |
| Creative economy business    | v              | v             | v             | Handcraft |
| Agriculture and plantations  | v              | v             | v             | |
| Waste management             | x              | v             | x             | Not optimally managed |
| Poor human resource          | v              | x             | v             | Low education background |
| Lack of awareness            | v              | v             | v             | |
| Insufficient fund            | v              | x             | x             | Limited fund |
| Low community participation  | v              | v             | v             | Dominated by village official |
| Marketing issues             | x              | v             | v             | Lack of digital marketing |
| Lack of tour guide           | x              | x             | v             | Tourism managed by private parties |
| Poor infrastructure access   | v              | v             | v             | Road, Lighting and sanitation |
| Lack of coordination between stakeholders | x              | v             | v             | Lack of leadership |

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3.2.2 Value proposition
The values of each village lie in their affordable prices, beautiful natural scenery, comfortable and clean facilities, friendly staff, and unique souvenirs. However, Cipamekar specifically emphasizes their springs, historical, and cultural values (Caringin tree /jajaway). On the other hand, Pagerwangi emphasizes their pencak silat, calung, and karinding performances and also their superior agricultural commodities. Meanwhile, Cibiru Wetan emphasizes their camping activity, farm product (Manglayang coffee), and children’s ‘play area.

3.2.3 Channel
To link their tourism object values to a customer, the three villages have decided to use social media such as Instagram, YouTube, Facebook, and WhatsApp to promote them. The offline promotion has also been done by placing street banners and distributing brochures. It is also worth noting that Pagerwangi is going to use the local radio (M3FM and Cosmo Channel) and door-to-door advertising with the private managers of tourist objects. On the other hand, Cibiru Wetan is going to use television advertising and collaborate with the sub-district and the private sector. Meanwhile, Cipamekar is going to hold a tourist village competition.

3.2.4 Customer relationship
To maintain good relations with customers, the three villages have decided to give discounts for groups, friendly service, security guarantees, and cleanliness of the location. In this case, Cipamekar is going to give free services for birthdays and souvenirs to the first visitor. Cibiru Wetan is going to offer local wisdom and an atmosphere of tourist attractions. Pagerwangi is going to give a ticket that can be exchanged with vegetable and/or fruit seeds or local food/drinks.

3.2.5 Key activities
The three villages have decided that the main activities focus will be tourism providing gorgeous selfie locations, photography services, and education on agricultural and cultural tourism. In addition, tourist facilities such as toilets, prayer rooms, and stalls will also be provided. Cipamekar will develop a homestay, swimming pool, and rice field viewing spot. On the other hand, Pagerwangi will develop strawberries and orange picking activities.

3.2.6 Key resources
The villages have human resources and great locations. For example, Pagerwangi has productive agricultural land, Cipamekar has Caringin tree and culture such as Kuda Renggong and Cibiru Wetan has pine forest and Tanggri Seribu.

3.2.7 Key partners
To develop the tourism villages, the villages have decided to cooperate with tourist managers, youth organizations, Pokdarwis, travel agencies, tourism offices, and investors. Pagerwangi will collaborate with local farmers to develop ticket exchange items, with marketing managers/influencers, and with Wangunsari and Mekarwangi Villages.

3.2.8 Revenue stream
The development of tourism villages will affect their source of income. Generally, the three villages will earn revenue from tickets, parking, and rent for the involvement of local business. Cipamekar has other opportunities to generate revenue from homestay rent, kuda renggong performance, and renting buoys.Pagerwangi can generate income from souvenirs and profit-sharing with the local farmers. On the other hand, Cibiru Wetan can generate revenue from camping, selling garden products, and profit-sharing with the local business actors.

<table>
<thead>
<tr>
<th>KEY PARTNERSHIP</th>
<th>KEY ACTIVITIES</th>
<th>VALUE PROPOSITION</th>
<th>CUSTOMER RELATIONSHIP</th>
<th>CUSTOMER SEGMENT</th>
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<tr>
<td>Fruit farmer</td>
<td>Tourist village map</td>
<td>Natural and cultural tourism areas (pencak silat, calung, karinding performance)</td>
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<td></td>
</tr>
<tr>
<td>Houseplant manager</td>
<td>Strawberries picking</td>
<td>Fresh Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetable farmer</td>
<td>Education</td>
<td>Affordable</td>
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<tr>
<td>Government farmer</td>
<td>Photos</td>
<td>Comfortable and clean facilities (water, prayer)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outside the village (Wangunsari &amp; Mekarwangi)</td>
<td></td>
<td>Friendly employee service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marketing manager</td>
<td>BUMDes</td>
<td>Excellent product quality (horticulture)</td>
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<tr>
<td>Tour manager</td>
<td>Community</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local people</td>
<td>Productive Farmland</td>
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**Figure 2.** Pagerwangi business model canvas

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**Figure 2.** Pagerwangi business model canvas
3.2.9 Cost structure

The average cost structure includes employee salaries, water and electricity, building maintenance, ticket printing, advertising costs, and additional costs for facilities in tourist areas. The cost in the construction of tourist attractions is not a small fund, so it needs support from various parties, both funds sourced from local governments (villages and districts) for infrastructure purposes and from the private sector who is willing to invest funds for the construction of tourist attractions. In addition, the opportunity for channels and partners from the village makes it possible for their development to be in the form of sharing financing.

The BMC workshop which has been carried out in 3 villages namely Pagerwangi Village, Cibiru Wetan and Cipamekar is one of the participatory steps to build awareness of tourism potential. In accordance with the principle in CBT that the participation of every stakeholder and social capital is one of the determinants of success [34, 35]. In addition, participatory BMC is one of the efforts that can be done so that the direction of CBT as a third sector economy (social economy enterprises) can be realized [33, 39]. Figure 2 shows one of the results of the BMC workshop in Pagerwangi Village after going through several iterations of discussion with the actors concerned. While Figure 3 is a form of means so that the village and the community together in formulating the business direction of the tourist village which will be managed by BUMDES. With the activation of BUMDES to manage tourism village activities from upstream to downstream, it is hoped that the tourism village business that is run can be realized in a fair and sustainable manner.

3.3 Expected impact

Tourism-based village development will give a large multiplier effect on the economy due to backward and forward linkages. The village tourism value chain is presented in Figure 4.

The sectors that have a backward linkage with tourism activities are the following:
1. Service sectors include travel agencies that offer tour packages and guides. The added value is related to offering individual or group tours. This activity is most likely to be done by young people in the village.
2. Transportation sector including regional and local transportation. Cipamekar Government has planned to build a public square for bus parking and to prepare local vehicles for transportation to tourist destinations. This is an example of transportation sector development in rural areas.
3. The agricultural sector provides food, ornamental plants, and fruits as souvenirs.
4. Food processing and handicraft sector produce processed food and unique items that can be sold as souvenirs, promoting local culture.
5. Accommodation, food, and drink sectors provide guest houses, homestays, places to eat. Tourist attraction core activity most often correlates with food and drink demand.
6. Entertainment sector provides attractions, in this case, pencak silat, calung, and karinding performances (Pagerwangi).

<table>
<thead>
<tr>
<th>Activities</th>
<th>Positive Impact</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Added attractions in tourist areas (art, culture, farming, etc.)</td>
<td>Increasing tourist arrival in tourist attractions</td>
<td>Increasing Village Income (PAD, Pendapatan Asli Desa)</td>
</tr>
<tr>
<td>Cooperation with small and medium-sized enterprises</td>
<td>Increasing buying and selling frequency</td>
<td>Strengthening family economy resilience</td>
</tr>
<tr>
<td>Cooperation with local farmers for the exchange tickets</td>
<td>Increasing incomes</td>
<td>Strengthening family economy resilience</td>
</tr>
<tr>
<td>Recruitment and training of tour guides</td>
<td>Increasing value the agricultural products</td>
<td>Increasing turnover rate (increased PAD)</td>
</tr>
<tr>
<td>Orange or strawberries picking</td>
<td>Involving local communities</td>
<td>Reducing unemployment</td>
</tr>
<tr>
<td>Building maintenance or renovation</td>
<td>Increased farmers' income</td>
<td>Strengthening family economy resilience</td>
</tr>
<tr>
<td>Parking</td>
<td>Involving local communities</td>
<td>Reducing unemployment</td>
</tr>
<tr>
<td>Marketing</td>
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</tbody>
</table>
Tourist activities development in the three villages will significantly transform the local economy. Assessment and observation found the following impacts:
1. Taking into account stakeholders’ insight about the acceleration of rural economic transformation through optimization of BUMDes using the business model canvas.
2. Generating creative ideas from participants to further unlock the tourism potential of the villages.
3. Deciding the direction of tourism development through a participatory process.
4. Identifying aspects to be improved at BUMDes.
5. Developing properties related to tourism and other BUMDes ventures.
6. Forecasting economic development through profit opportunities is shown in Table 2.
7. Describing short- and medium-term plans for tourism village development is shown in Table 3.

Table 3. Short- and medium-term plan of tourism village

<table>
<thead>
<tr>
<th>Tourism Spots</th>
<th>Short-Term Plan</th>
<th>Medium-Term Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Village Information Center – Pagerwangi Village</td>
<td>Building a tourist village information map placed in the village hall area and creating a digital running text of tourist information</td>
<td>Becoming a supplier of vegetables, oranges, and handicrafts and being known for <em>silat, calung</em>, and other cultures.</td>
</tr>
<tr>
<td>Sirah Air Cipamekar Village</td>
<td>Adding children play area, easy to access sites, building a restaurant managed by BUMDes, and relaxation spots in the springs</td>
<td>Developing camping site facilities beside the river basin, and the rice fields and building bamboo bridges and homesteads.</td>
</tr>
<tr>
<td>Tangga Seriba - Cibiru Wetan Village</td>
<td>Making boards and map directions for tourists with digital running text</td>
<td>Developing public facilities for tourists, providing clean water, collaborating with the arts community for art performance, and cooperating with travel agents</td>
</tr>
</tbody>
</table>

4. CONCLUSIONS

Each village has unique potentials that can be explored to generate benefits in the future. In this case, the three villages have agreed to improve their economy by developing tourist villages. The development of tourist villages needs to take into account each village's potential to offer integrated agricultural and local cultural activities to tourists. By implementing the business model canvas method, the three villages have similar market segments and values. Thus, the development plant can be integrated using the same framework. However, each village has its uniqueness in terms of resources that can be developed into different tourist attractions.

To be able to implement CBT in village tourism in each village, collaboration between stakeholders from the government, the community and the private sector is needed in planning and building together tourist villages in the short and medium term. Gradually, the principles of CBT can be implemented in the three villages through an institutional collaboration approach so that sustainable tourism can be realized and is expected to be able to provide significance in reducing poverty, unemployment and strengthening the household economy and rural economy. This action research can be a guide for the three villages in further developing the direction of tourism village development through careful planning and prioritizing the principles of sustainable development through the principles of CBT.

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