ENVIRONMENTAL ENTREPRENEURSHIP EDUCATION: CASE STUDY OF COMMUNITY EMPOWERMENT PROGRAMS IN BANDUNG BARAT DISTRICT, INDONESIA

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ABSTRACT

**Purpose:** Community empowerment through environment-based entrepreneurship training by utilizing environmental potential is an empowerment program that is in line with the Indonesian government’s program on Micro, Small and Medium Enterprises (MSMEs). The purpose of this article is to find out how economically powerful the utilization of the environmental potential of Margalaksana Village is, including bamboo forests, fish potential, ponds in Cirata Reservoir, water hyacinth waste, and culinary tourism.

**Methodology:** This research employed descriptive method with qualitative data retrieval that was obtained by in-depth interviews with respondents and direct observation of community empowerment activities in Margalaksana Village, West Bandung Regency. Respondents were selected through purposive sampling. The respondents consisted of activist and founder of working groups in Margalaksana Village; Opinion Leader (religious leader, social figure, organizational figure); Working group (Cirata Caring Society, Cirata Love, Floating Nets Pool).

**Findings:** Some important potentials in entrepreneurial activities are physical capital, human capital and social capital. Physical capital is in the form of facilities and infrastructure support from the government. Human capital is characterized by a level of education that can provide motivation so that it can develop its empowerment and will have a significant impact on community independence. Social capital can be seen from the high community participation in social activities and empowerment activities. An environment-based entrepreneurship training activity is a strategy that allows people to improve their welfare. The role of the leader who is able to motivate its members to continue to be passionate in entrepreneurship.

**Significance:** The contribution of this study makes an initial map of environmental conditions, socio-economic conditions, government policies, responses and community needs related to environmental entrepreneurship education. The mapping data will later become the basis for designing the community-based community empowerment model.

**Keywords:** Non-Formal Education, Community Empowerment, Fish Farming, Training, Cirata Reservoir.
INTRODUCTION

The improvement of the community's economy through Micro, Small and Medium Enterprises has been carried out by the Indonesian government, as of 2014-2016 the number of Micro, Small and Medium Enterprises is more than 57,900,000 units. In 2017-2018, they are predicted to grow to more than 59,000,000 units (Ministry of Micro, Small and Medium Enterprises, 2016).

The development trend of Micro, Small and Medium Enterprises is increasing from year to year; it can be seen from the following Figure 1 (Source: Ministry of Micro, Small and Medium Enterprises, 2016).

![Number of Units](image)

FIGURE 1
DEVELOPMENT DATA OF MICRO, SMALL AND MEDIUM ENTERPRISES IN INDONESIA

Micro, Small and Medium Enterprises currently contribute to Gross Domestic Product (GDP) up to 60.34 percent. In the years of 2014 to 2016, the number of small and medium enterprises entrepreneurs in Indonesia rose from 1.56 percent in 2014 to 3.1 percent of the total population at the end of 2016 (Putra, 2018). The potential development of Micro, Small and Medium Enterprises in Indonesia cannot be separated from the support of banks in lending to Micro, Small and Medium Enterprises. Every year credit to Micro, Small and Medium Enterprises is growing and in general, the growth is higher than the total banking credit. The development of Micro, Small and Medium Enterprises is relatively increasing from year to year; this can be seen from the credit data for the purpose of Micro, Small and Medium Enterprises in Commercial Banks (Table 1):

<table>
<thead>
<tr>
<th>Details</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSMEs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business field</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture, Forestry, and Fisheries</td>
<td>75,744</td>
<td>89,199</td>
</tr>
<tr>
<td>Mining and excavation</td>
<td>5,264</td>
<td>6,034</td>
</tr>
<tr>
<td>Processing industry</td>
<td>86,775</td>
<td>95,998</td>
</tr>
</tbody>
</table>
Entrepreneurship is one of the topics that are widely discussed by researchers because small and medium entrepreneurs provide jobs for the lower classes (Zahra et al., 2009; Vial & Hanoteau, 2015). This is reinforced by the results of research that suggests that entrepreneurship can have implications for improving economic welfare and suppressing the number of social problems, and forming an entrepreneurial-based community (Anderson & Miller, 2003; Parwez, 2017; Dhahri & Omri, 2018). Business-based communities such as the Association of Farmers' Groups, Cirata Floating Nets Pool groups, Farmer Groups, these communities are formed based on their similarities in the fields of entrepreneurship such as agriculture, fisheries, and micro businesses and small businesses.

The research was conducted in Margalaksana Village, Cipendeuy Subdistrict whose land was submerged by Cirata Reservoir to approximately 500 ha, it could accommodate as many as 2,165 million m$^3$ of water, with a reservoir area of 71,395,641 m$^2$ and capable of generating 1,008 GigaWatts of electricity for the benefit of electricity in Java, Bali and Madura. In addition to hydropower, this reservoir is also used in the field of fisheries for floating net fishing, and tourism (Maghdalena & Widiastuti, 2015). At present most people use the reservoir for KJA cultivation. Business in the field of aquaculture is quite promising if you look at the demand trend that has increased from year to year. This can be seen from the national average increase in per capita fish consumption from 2005 of 25 kg/capita/year to 30.48 kg/capita in 2010. West
Java Province is recorded as an area that produces more than half of the freshwater consumption fish in circulation in the local market. Cirata Reservoir in West Java produces an average of 8,000 tons of freshwater fish (Fisheries Department, 2016).

Community empowerment programs carried out through education and partnership with working group groups with the Department of Agriculture, Industry and Trade Service and Cirata Reservoir Management Agency get full support from the Margalaksana Village itself. The output of entrepreneurship education through community empowerment is an increase in the knowledge and ability of the community in making an economic business through the entrepreneurship establishment. Entrepreneurial competence can be developed with education or training. That is, entrepreneurship education can be a means or tool to create human resources to be empowered and have economic capabilities (Tohani, 2015; Zubizarreta et al., 2014; Ribes-Giner et al., 2018; Nasibulina, 2015).

Environmental-based entrepreneurship education activities are a strategy that allows people to improve their economic conditions. In addition, the final result of entrepreneurship is to make a significant contribution to government revenues. Entrepreneurship not only creates new businesses but also new jobs, new discoveries and even new technologies through product innovations produced (Iskandarini, 2014). Entrepreneurship education obtained by the Margalaksana Village community included: the formation of working groups that each received different training, namely: 1) making snacks from fish results Floating Nets, 2) training in tilapia cultivation with Floating Nets, 3) training in making shredded fish and 4) training on the use of water hyacinth waste. The use of the environment that has the potential for entrepreneurship, innovation, and small-scale business can simultaneously be successful if it involves the government, community and community organizations so that sustainable development can be achieved (Gurău & Dana, 2018).

METHODOLOGY

The method used in this research was a descriptive method with qualitative data; the reason for using descriptive methods is that it was effective and efficient to gather information about the views, ideas, and input of other respondents and other stakeholders regarding social, economic and geographical conditions. Respondents were selected through purposive sampling. The informants included: 1) activist and founder of working groups in Margalaksana Village; 2) Opinion Leaders (religious leaders, social leaders, organizational leaders); 3) Working groups (Cirata Caring Society, Cirata Love, Floating Nets).

Data collection was carried out through techniques: 1) key respondents interviews. This interview consisted of a series of open questions conducted on individuals who are considered to have knowledge and experience on non-formal education-based empowerment through entrepreneurship training. Interviews were qualitative and in-depth; 2) Direct observation was carried out through field visits and on community activities that are in line with the research objectives. Data collected were in the form of information about geographical conditions, socio-economic conditions, available resources, and on-going program activities. The validity of the data used triangulation techniques, which were interviewing the same source through different methods and times, and conducting non-participation observations in some time.
RESULTS AND DISCUSSION

Margalaksana Village is a village in Cipeundey Subdistrict, Purwakarta Regency with a land area of around 597,000ha, and around 500ha of the land is submerged by the Cirata Reservoir. For 2017-2018, development in the Margalaksana village is focused on the construction of infrastructure and public facilities. Compared to other villages in Cipeundey sub-district whose development is almost 90%, Margalaksana village is only 45%, so that infrastructure is still lagging behind the other villages. Currently, the village government is trying to reach the target of 80% of infrastructure development for 2018-2019.

Infrastructure conditions indicate that Margalaksana Village has several problems, including poor drainage management, many road conditions are badly damaged, clean water has not reached all Citizens Associations and the lack of streetlights so that lighting is very poor at night, which is so, felt when night when the road becomes very dark. This makes the mobility and activity of citizens at night becomes hampered.

Social mapping is done not only to discover the potential resources and social capital of the community, but also to identify stakeholders in relation to the existence and activities of empowerment actors, not only those that have the potential to be invited to collaborate but also those that have the potential to hamper the implementation of future programs. This can also identify the needs and roots of problems that are felt by the community in improving their welfare. The social mapping will find the needs of the community and not just the desire of the community associated with entrepreneurial activities because good entrepreneurs are entrepreneurs who utilize existing resources. The previous research conducted initial mapping to analyze and obtain a holistic understanding of the potential of natural, social and human resources to help design programs that are in line with their objectives (Dressel et al., 2018; Moliner et al., 2017; Suharto, 2007).

Potential of Natural Resources

The potential of natural resources will be used as a potential empowerment for the community, which can create a new economy for the community. The potential map will later be used as the basis for creating an empowerment program.

Bamboo Forest

Margalaksana Village has a fairly broad potential of bamboo forests, and until now it has been used by some residents to produce various handicrafts that have economic selling power such as ashtrays for cigarettes, fans (hihid), boboko, nyiru, bird cages, bags ladies and hats. However, the use of bamboo for entrepreneurs is less attractive to the community, because they assume that the business is less promising, people prefer to work in factories or become employees rather than entrepreneurship. Another problem is the marketing of goods and the distribution of goods, as well as the lack of innovation and the courage of bamboo craftsmen to make new types of bamboo crafts. Bamboo craftsmen do not dare to take risks when there are large quantities of goods with remote delivery, because according to them the production and shipping costs will not cover the capital spent, other than that the lack of innovation in bamboo crafts can be seen from the products produced only on the order basis.
The existence of the Cirata Reservoir

There is many potentials that can be utilized by the community in relation to the Cirata Reservoir, such as fish potential and tourism potential. Community residents can use Floating Nets to maintain fish which are of course licensed by the BPWC as the official owner. Besides that, the reservoir cirata has the potential for nature tourism and culinary tourism with natural scenery.

Potential of Hyacinth Waste

Water hyacinths are many and easy to find, are considered pests, are said to be useless and even interfere with the views of the Cirata Reservoir. Through the proper processing, water hyacinth can be maximized to become a natural resource that produces or has the potential to grow the economy. The use of water hyacinth by groups of craftsmen is less maximum because of the lack of knowledge (creativity) and capital; therefore the group experienced a setback. Some water hyacinth utilization programs that have not been realized are only at the planning stage, the use of water hyacinth waste into fish feed and cattle feed.

Agriculture

Margalaksana village has extensive agricultural land where 70% or the majority of the population lives as farmers. Therefore, agriculture is an important source of great potential.

Human Resources

Human resources of productive age both men and women are quite a lot. They are equipped with traditional farming skills because they still maintain hereditary farming habits. The existence of a complete institutional element consists of Village Government, Village Consultative Agency, Community Empowerment Institution, Village Ulema Council, Mosque Prosperity Council, Youth Organization, Family Welfare Empowerment, Group Farmers, Combined Farmers' Groups, Neighbourhood Associations, Citizens Association, Sports Organizations, Art Organizations, and Educational Institutions.

Most of the livelihoods of the Margalaksana Village community are farmers and farm labourers, therefore farming activities are a vital factor in supporting the village economy. However, the problem is that the paddy fields in the village of Margalaksana do not have a water source when the dry season, it is only through utilizing rainfall. Additionally, the village does not have a good irrigation system.

The impact of modernity on Margalaksana village community awareness in terms of social or mutual cooperation in helping their fellow citizens begin to decline. This can be seen from the decline in the number of citizen participation in cooperating to build or repair public facilities such as roads, drainage, and mosques.

Barriers faced

Based on the results of the research, several potentials can become obstacles to the development of entrepreneurship in the Margalaksana village. The obstacles that are gathered can have natural, social, and human barriers themselves, see in Table 2.
<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nature</strong></td>
<td>Lack of mastery of agricultural technology, resulting in a lack of maximum agricultural yield</td>
</tr>
<tr>
<td></td>
<td>Less maximum processing of post-harvest results</td>
</tr>
<tr>
<td></td>
<td>Irrigation and fertilization in agriculture are still difficult because the land in the Margalaksana village is rainfed</td>
</tr>
<tr>
<td></td>
<td>There is still garbage scattered because people throw garbage carelessly</td>
</tr>
<tr>
<td><strong>Social</strong></td>
<td>Most people have a low education so they cannot create jobs and lose competitiveness in obtaining employment opportunities</td>
</tr>
<tr>
<td></td>
<td>The lack of entrepreneurial interest and capital difficulties</td>
</tr>
<tr>
<td></td>
<td>It is a border area with Bandung regency so that the culture becomes contaminated</td>
</tr>
<tr>
<td><strong>Infrastructure</strong></td>
<td>The road infrastructure is badly damaged</td>
</tr>
<tr>
<td></td>
<td>The role and institutional functions are not maximized, both at the village and hamlet levels.</td>
</tr>
<tr>
<td><strong>Human resources</strong></td>
<td>Lack of business/capital funds for the Agriculture and Plantation Sector needs to be helped by its capital, Small businesses need capital injections, Small-scale businesses such as snacks and handicrafts are lack of capital</td>
</tr>
<tr>
<td></td>
<td>The difficulty of marketing to sell handicrafts</td>
</tr>
<tr>
<td></td>
<td>Materials for plastic waste craft are hard to find because relying on recycling waste such as coffee marks installs and paper materials to be recycled into rolls of cloth is still difficult to obtain</td>
</tr>
<tr>
<td></td>
<td>Lack of ongoing coaching for groups of craftsmen</td>
</tr>
<tr>
<td></td>
<td>lack of knowledge in fertilization</td>
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<tr>
<td></td>
<td>BPWC policy prohibits activities near the Cirata reservoir</td>
</tr>
<tr>
<td></td>
<td>There is an assumption that working in the city is more promising than working in the village</td>
</tr>
<tr>
<td></td>
<td>Another assumption about entrepreneurship is difficult, easy to go bankrupt, difficult to develop and has a low possibility of success</td>
</tr>
<tr>
<td></td>
<td>The mindset of people who are monotonous and difficult to develop, it is difficult to accept innovations in new ideas, especially regarding the economy</td>
</tr>
</tbody>
</table>

Source: Research result

Looking at these factors, it is difficult for the village community to develop because the residents prefer to work in the city rather than work in their own villages and build their own villages. According to the village secretary, the solution to deal with these problems is the frequent holding of education or courses that can improve the expertise of the village community. To conduct training or courses, it is necessary to get support from the government or the private sector. It is expected that later there will be assistance from the village or outsiders who provide training that can improve the quality of human resources in the village. In addition to training, another solution to improve the quality of human resources is by multiplying
vocational secondary schools from the government. Until now it is still relatively minimal for the number of existing vocational schools.

**Environmental-Based Entrepreneurship Education as a Community Empowerment Program**

The community empowerment process through Margalaksana Village community empowerment consists of three stages, including the awareness stage, the working group formation phase (working group) and the last is the stage of the empowerment program implementation. Empowerment activities can be carried out through social assistance, there are 5 (five) important activities that can be done in social assistance, namely (Sumodiningrat, 2009).

**Motivation**

At first, the activists of the Cirata Caring Community Group realized the potential of Margalaksana Village that was quite large with the condition of the people who were not developing, while the people who came from outside the region were smart to use the land so that they could develop more from their own communities.

Motivation is the driving force of individuals in behaving; therefore the first step taken by social activists is to provide understanding, entrepreneurial insight into the benefits and objectives of entrepreneurship to the village community. By strengthening and fostering community motivation, they will be enthusiastic and enthusiastic about taking part in the training, because the village community has many economic needs that must be met and one of the alternative solutions is through entrepreneurship. This phenomenon is in line with the research conducted by (Suárez-Ortega & Gálvez-García, 2017) which suggests that women's motives and decisions when doing entrepreneurship are to help the family economy and they are pressured by needs not from calling or motivation from inside. Most of the trainees were home women who in fact her husband worked as fishermen, motorcycle taxi drivers and farmers, so one of their motivations was to increase and improve their financial condition.

Furthermore, socialization on the potential that can be empowered starts from natural potential, social potential and human potential itself. The introduction of potential is done so that people know that there are many opportunities for entrepreneurial opportunities around the environment, many environmental problems that actually have economic value. The socialization process was carried out by the activist team through village meetings, the Ministry of Fisheries and Agriculture by providing an understanding to the community about the community empowerment program in their neighbourhood. This process requires considerable effort because people prefer to work in the city than in the village.

Then coaching to the community is intended to provide insight that the village of Margalaksana has enormous potential and so far people from outside the region who use the land and of course, they can develop even wealthier than those who have their own territory. Because of that, it triggers motivation from the community to progress, after changing the traditional mind-set through various socialization and training.

At the time of giving insight, the initial obstacles that arise actually come from the community itself. The working group formed is a fish processing working group to have added value. The people who are trained are women with the goal later the results can help the family economy. But the problem comes from the mind-set of the people who consider that the husband is the one who seeks sustenance while the woman works at home. Because of that, it is necessary
to instil insight into the husbands so that his wife can get permission to attend training. Most of the husbands work as floating net farmers, if the husband's work can be processed by the wives, the results will have added value compared to selling the fish. Aside from that, as a motivator for every community who participated in the training, they got free transportation and lunch.

**Awareness Raising and Ability Training**

The role of empowerment activist will be effective in improving community empowerment if the community previously has received training, in other words, empowerment activists cannot directly influence the community empowerment, but a process that accompanies empowerment must accompany them. Increased empowerment is a determinant of the success of activist in efforts to increase community empowerment. An entrepreneurial empowerment activist will succeed if the educator or resource person has a competent background in the field of entrepreneurship (Henry & Lewis, 2018).

People need an empowered to lead and motivate them because the villagers tend to be passive. They will move if a driver who acts as a leader. This is reinforced by research that shows a close relationship between the performance of community members and leadership style, this is because there are trust and goodwill between community members and leaders. In addition, a leader has the ability to instill trust in his members (Pourakbar, 2018; Gomaa et al., 2015; Martiskainen, 2017; Reid et al., 2018).

The following training has been provided to Margalaksana Village communities: 1) Training of water hyacinth waste processing for cattle feed, fish feed; 2) Training of water hyacinth waste processing for handicrafts (hats, bags, etc.); 3) Marketing training in collaboration with the Ministry of Industry and Trade; 4) Tilapia aquaculture training that focuses on fish eggs, not on fish meat.

Increasing the ability of the community in entrepreneurship utilizing natural potential as a whole will have an economic impact, although to succeed it requires several supporting factors such as social factors and capital factors. Entrepreneurship training is an alternative that can create jobs that will affect income (Bak, 2018). Sustainable entrepreneurship training is a lifelong process that transcends the limits of formal education and exists in the form of lifelong learning to create conditions for the development of environmental awareness and the formation of behaviour (Nasibulina, 2015).

**Social Capital**

Social capital is the ability of the community to interact with each other and can be seen from the closeness, intimacy, trust, and ability to cooperate among the community. Margalaksana Village community has quite potential social capital. This can be seen from many levels of community participation in mutual cooperation activities, road improvement, and cleaning of the Cirata Reservoir from the water hyacinth pest. Social capital is one of the important points of success in entrepreneurship empowerment programs, this is reinforced by research findings that show individuals who have the same level of social similarity, and the same profession will be able to cooperate in an economic relationship. The transfer of knowledge and abilities, as well as collaboration between communities, will be strong if their social ties are strong. It will produce a conducive social environment (Anderson & Miller, 2003; Mtika & Kistler, 2017).

Increasing community empowerment can be achieved through the empowerment process because of the role of human capital and social capital. The business capital that includes
physical capital, social capital and human capital does not automatically generate community empowerment. Development of physical capital will provide stimulation that will support the empowerment process which will ultimately improve community empowerment. Physical capital assistance such as production houses, production equipment will help accelerate community empowerment even though it is not too significant because the one that plays an important role in community empowerment is the human factor itself.

**Resource Mobilization**

Understanding the Margalaksana village community on the benefits of natural resources, namely Cirata reservoirs, management legality is the proof of the implementation of community empowerment programs to improve their welfare which is realized in various forms of activities. The following are some outputs that have been successfully achieved by the Cirata working group, namely:

1. Cultivation of Floating Nets has succeeded in supplying fish consumption 60-70 percent for the West Java region;
2. Already able to produce 80 tons of fish per day;
3. Processing the results of tyawar water fish into other forms (shredded fish, cakes from fish ingredients, chips from fish ingredients) to get more value when sold;
4. Before cooperation with the agency, initial capital is obtained from membership fees (Swadaya);
5. After the cooperation, officially provides facility capital assistance in the form of equipment.

Community members who have participated in the training form their own groups, standalone by inviting their closest friends or neighbours. Therefore, more and more working groups are formed in this Margalaksana village environment.

**Network Development**

The formation of working groups ranging from Floating Nets Pool Group, Cirata Love Group, and Mulia Cirata Group. The institutional role is one of the factors that determine the success of an organization. Factors that influence the role of an institution are clear objectives, organizational structure, support or community participation, and a system of values adopted. Currently, the working group is starting to collaborate with several agencies such as 1) Fisheries Department; 2) BPWC (Cirata Reservoir Management Agency); 3) West Java Provincial Government; 4) Padjadjaran University; 5) West Bandung Regency Government. This cooperation is needed to expand networks that can help and support the success of entrepreneurship that is being formed. Assistance obtained in the form of physical capital ranging from net tools, fishing, fishing equipment while non-physical capital ranging from aquaculture training, marketing training, and licensing administration.

To increase entrepreneurship, it is better to promote, cooperate and establish a business network which then encourages informal entrepreneurship to move to the formal sector (Thai & Turkina, 2014). Promotion is a fairly effective way to introduce products produced to the community, effective promotion using communication technologies such as social media (Cristina, 2016). By promoting it is likely that products will be known and open opportunities for collaboration, forming new relationships and expanding market share. Relations not only increase the level of sales but also can increase knowledge by exchanging experiences about the
ins and outs of entrepreneurship (Figure 2 (Source: (Sumodiningrat, 2009) modification by the author)).

**FIGURE 2**
AN ENVIRONMENT-BASED ENTREPRENEURSHIP EDUCATION MODEL IN THE VILLAGE OF MARGALAKSANA CIPEUNDEY, INDONESIA

**CONCLUSION**

The core of entrepreneurship education in Margalaksana Village is the utilization of natural potential in the form of Cirata reservoirs, agriculture, bamboo forests, fisheries and water hyacinth waste, which can be economically empowered. The result is that the community can form business groups such as Gapoktan, Cirata Caring Communities, Floating Nets Pool groups that utilize the existing natural potential to be economical, such as selling fish, shredded fish, bamboo crafts, and selling handicrafts from water hyacinth waste.

Entrepreneurship education activities are carried out through social assistance, there are 5 (five) important activities that can be carried out in social assistance, namely motivation, capacity building, utilization of social capital, development, and network development and resource mobilization. In this empowerment activity, it is found that the leader plays a very important role in giving the members confidence and motivation. Another finding is that promotion is an alternative way for groups of working groups to establish cooperation and foster relationships with other entrepreneurs to increase market share and transfer of knowledge between them.
REFERENCES


