Edutourism development model in unesco global geopark ciletuh palabuhanratu sukabumi district

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Abstract. This study aims to model the development of edutourism at the UNESCO Global Geopark (UGG) Ciletuh Palabuhanratu, Sukabumi Regency. The sample of the study area was Ciemas Subdistrict, Waluran Subdistrict, and Ciracap Subdistrict. Human samples of this study were divided into two groups, namely inhabitants and communities. The number of respondents involved was 126 people (inhabitants) and 3 people (representatives from three communities). There are three variables studied, that is: (1) inhabitants and community involvement in the development of the UGG Ciletuh Palabuhanratu; (2) inhabitants and community support for UGG Ciletuh Palabuhanratu edutourism activities; and (3) the role of inhabitants and community in the development of the UGG Ciletuh Palabuhanratu. Data collection techniques are interviews and questionnaires. Data obtained were analyzed quantitatively descriptive based on research variables. The results obtained are a model for the development of edutourism in the UGG Ciletuh Palabuhanratu which focuses on the role of the inhabitants and the community, increasing social capital, and patterns of regional development. The model will be used as a basis in the process of developing edutourism initiated by the community and supported by the community. The implementation of this model is expected to increase the independence of the community in managing the geopark area as a tourist destination.

1. Introduction
Geopark is an area that has unique geology, archaeological, ecological and cultural values, where local people are invited to contribute actively in efforts to preserve and improve the function of natural heritage [1]. Ciletuh Palabuhanratu Geopark is a regional management concept that harmonizes geological, biological and cultural diversity, through the principles of conservation, education, and sustainable development in eight subdistricts in Sukabumi District, West Java Province, Indonesia. Ciletuh Palabuhanratu Geopark has an area of 126,100 Ha or 1,261 km². This area includes 74 villages, in eight subdistricts namely Ciracap, Surade, Ciemas, Waluran, Simpenan, Palabuhanratu, Cikakak, and Cisolok. Ciletuh Palabuhanratu Geopark has been officially designated as Global Geoparks by UNESCO Global on April 4-17 2018 (http://jabarprov.go.id/) and entitled to use the name “UNESCO Global Geopark” (UGG). This achievement shows that the UNESCO Global Geopark (UGG) Ciletuh Palabuhanratu has been able to realize the geopark motto, which is "Celebrating Earth Heritage, Sustaining Local Communities". On the other hand, the Ciletuh Palabuhanratu Geopark Region has generated many new tourist activities for residents outside the area. Tourism potential in the Ciletuh Palabuhanratu Geopark has been very well developed so that it can attract domestic tourists and improve the economy of the local community.
At present, the Ciletuh Palabuhanratu Geopark area is quite popular with people outside of Sukabumi District, especially people who live in West Java Province. Some tourists visit it with just recreation motive. They came because they wanted to enjoy the authentic and beautiful natural scenery. Then some people came to this area to conduct research for academic purposes. There are even tourists visiting for recreation while satisfying their curiosity towards the uniqueness of geology, culture, and also biodiversity in the UGG Ciletuh Palabuhanratu. This group of tourists is called edutourism tourist.

Educational tourism (better known as edutourism) is a tourism activity that aims to provide a real learning experience to tourists in a tourist destination [2]. The development of the edutourism aspect must refer to that goal. Learning experiences for tourists can be interpreted as experiences that can have a positive impact on their cognitive and affective aspects [3]. Positive impact on cognitive aspects can be seen in the increase in knowledge gained by tourists. In this aspect, the role of tour guides needs to be fully considered. While the positive impact on the affective aspects can be seen in the increase of tourists' awareness of natural and cultural conservation efforts. In other words, tourists are moved to contribute to the efforts of nature and culture conservation [4].

The effort to develop the area of edutourism requires thorough planning and involves many factors. Some of the main aspects that are taken into consideration in planning edutourism in an area are inhabitants preparedness [5], infrastructure readiness and management [6], and edutourism tourist satisfaction [4]. These three aspects need to be studied in depth to understand how tourism processes in the edutourism region and how to obtain economic benefits and natural sustainability simultaneously.

UGG Ciletuh Palabuhanratu area is part of Sukabumi Regency. This area is known for quite a long time as an area that has a unique and scarcity of geological objects. The geological object is a collection of the oldest (Pre-Tertiary) rocks that are exposed on the surface in West Java [7]. The position of Ciletuh Bay which is in the southernmost part of Java Island and facing directly towards the Indian Ocean. This condition gives the beauty of the beach which is quite attractive to be used as a geological tourist attraction and marine tourism object.

Tourism has become a necessity for people in various layers not only for certain groups, so management must be taken seriously [8]. In addition to achieving all tourism development goals, promotion must be carried out so that potential and tourist attraction can be better known and able to move potential tourists to visit and enjoy tourist attractions [9]. In this case, the tourism industry is competing to create more varied tourism products regarding the preservation of the object itself in accordance with the objectives of tourism development, that is to introduce the beauty of nature and the culture diversity.

The participation of the inhabitants is an important factor in the development of the UGG Ciletuh Palabuhanratu area [4, 5]. With the support of the inhabitants, the development or development of the Ciletuh Palabuhanratu Geopark area will run smoothly. Another case if the development or development of the Ciletuh Geopark area did not involve the local community, it would have a negative impact on the relationship between the development company and the local community. In the absence of good relations between the developer company and the local community, it is feared that bad things will happen, such as the destruction of the UGG Ciletuh Palabuhanratu area or the blocking of access roads to the location of the UGG Ciletuh Palabuhanratu. So, from that the relationship between the manager and the local community must remain well established so that the local community can participate in maintaining the Ciletuh Palabuhanratu Geopark area.

Local people in the majority of Ciletuh Palabuhanratu Geopark earn their living as fishermen and farmers. The extent of the location with the center of activity in the South Sukabumi area is the reason why formal education there is still lacking and there are few jobs available [4]. There are still people who carry out activities that can damage the environment by over-exploitation. Through the potential in the UGG Ciletuh Palabuhanratu, it is expected to be able to change the mindset of the inhabitants, from initially utilizing natural resources by destroying to the utilizing the potential of natural beauty that promotes sustainable aspects so that it becomes a leading tourist area in West Java. Based on this description, the author intends to make a research paper to solve those problems entitled
“Edutourism Development Model in the UNESCO Global Geopark Ciletuh Palabuhanratu Sukabumi Regency”.

2. Methods
This research was conducted in the UNESCO Global Geopark Ciletuh Palabuhanratu area, Sukabumi Regency. This geopark area consisted of eight sub-districts and three sub-districts were taken as research samples. For a clearer picture, can be seen in figure 1 and table 1.

Table 1. Population and Sample Research Area

| NO | POPULATION AREA     | POPULATION | DESCRIPTION       |
|----|--------------------|------------|-------------------|
| 1  | Cisolok District   | 71,476     |                   |
| 2  | Cikakak Subdistrict| 40,508     |                   |
| 3  | Palabuhanratu District | 110,750 |                   |
| 4  | Simpenan District  | 58,097     |                   |
| 5  | Ciemas District    | 49,499     | Samples Region    |
| 6  | District Waluran   | 27,420     | Samples Region    |
| 7  | Ciracap Subdistrict| 51,881     | Samples Region    |
| 8  | Subdistrict Surade | 76,060     |                   |

Source: BPS (Badan Pusat Statistik/ Central Bureau of Statistics), 2017

Human samples in this study were inhabitants and communities in the UGG Ciletuh Palabuhanratu area. In this research, inhabitants are people who live in the UGG Ciletuh Palabuhanratu area. Meanwhile, community are inhabitants who make an informal institution for tourism development in UGG Ciletuh Palabuhanratu. There were two groups of respondents involved in the study, namely the inhabitants (126 people) and representatives of the community (3 people). Data collection was carried out through questionnaires for inhabitants and interviews for community representatives. The variables studied in this study amounted to three, namely: (1) inhabitants and community involvement in the development of the UGG Ciletuh Palabuhanratu; (2) inhabitants and community support for UGG Ciletuh Palabuhanratu edutourism activities; and (3) the role of inhabitants and community in the development of the UGG Ciletuh Palabuhanratu. Data analysis techniques are carried out quantitatively descriptive to produce new information which is used as the basis for making a model for developing edutourism. This model is designed in accordance with the factual conditions in the UGG Ciletuh Palabuhanratu so that the level of effectiveness of the implementation of this model is predicted to be high.

3. Result and Discussion
The Geopark Edutourism Model at UGG Ciletuh Palabuhanratu is a model of a tourism program that combines the concept of tourism with education and learning. The main elements of UGG are geodiversity, biodiversity and cultural diversity. Technically, the implementation of the concept of edutourism will present educational values that are packaged in tour packages to create a pleasant educational atmosphere. This concept is directed to provide services and education for inhabitants, tourists, and managers of tourist destinations to preserve nature. In carrying out the UNESCO Global Geopark concept, edutourism is one of the most important elements. UGG Ciletuh Palabuhanratu can develop the economy sustainably through this activity edutourism. Not only education about geology, but also knowledge about conservation and culture will be embedded along with the passage of this tourism concept. The results of data collection indicate that the inhabitants tend to involve in the development of activities edutourism at the UGG Ciletuh Palabuhanratu. Summary of research data can be seen in Figure 2 and Figure 3.
Figure 1. UNESCO Global Geopark Ciletuh Palabuhanratu is part of Sukabumi District, West Java Province. This geopark area consists of eight sub-districts.

Figure 2. Inhabitants involvement in the development of the tourism sector in the UGG Ciletuh Palabuhanratu area.

Source: Research Results, 2018
Figure 2 shows that the number of involved inhabitants is less than the not involved inhabitants. That is, there are still a few inhabitants who contribute to the development of the tourism sector. The development of the tourism sector cannot be done carelessly, but must be carefully prepared. The role of each element in the inhabitants must be determined so that there are no overlapping tasks and functions. Therefore, the data in figure 2 must be taken seriously so that there is an increase in inhabitants’ contributions.

Based on the data presented in Figure 2 and Figure 3, the inhabitants will not be an inhibiting factor in the development of edutourism. A small portion of the inhabitants has participated in the development of the UGG Ciletuh Palabuhanratu and also has a desire to contribute to further development efforts. However, based on the results of interviews, some respondents did not know about the concept of edutourism. Efforts to involve the inhabitants also need to be supported by educational programs so that they can contribute to the right procedures. On the other hand, the inhabitants also plays a dominant role in the development of the UGG Ciletuh Palabuhanratu area. Not only to carry out roles in order to strengthen existence, but also provide education to the public so that they are aware of the geopark status that has been achieved. Based on interviews, the role of the three communities in the UGG Ciletuh Palabuhanratu can be seen in table 2.

| NO | COMMUNITY'S NAME | ROLE OF COMMUNITY |
|----|------------------|-------------------|
| 1. | Paguyuban Alam Pakidulan Sukabumi (PAPSI) | Focus on nature conservation through waste reduction, supervision of natural resource exploration by local communities. PAPSI is the leading community in the development of geopark in Ciletuh. |
| 2. | Paguyuban Lahan Parahyangan (PALAPAH) | Focus on developing cultural aspects that exist in the geopark area to remain sustainable and known to many people. |
| 3. | Kelompok Penggerak Pariwisata (KOMPEPAR) | Focus on developing the tourism sector through increasing local community participation in providing goods and services related to tourism activities. For now, the thing that is being developed is the culinary effort, namely the promotion of Liwet Hanjeli Package. |

Source: Research Results, 2018
Development of edutourism in UGG Ciletuh Palabuhanratu requires an active role from various parties. At least there are three parties who must be involved in this business, namely the government, higher education institutions, and the community. But in its implementation, sometimes the role of the government does not always stand out to encourage the development of the tourism sector, especially edutourism, in this geopark region. In addition, the role of higher education has not been able to meet the expectations of the community to provide direction in the development of the edutourism sector. Therefore, the role of the community becomes very important and central in the development of edutourism in the UGG Ciletuh Palabuhanratu.

The model of developing edutourism in the UNESCO Global Geopark Ciletuh Palabuhanratu includes the role of two parties, namely the community and the community. The relationship between the two parties is quite complex in this study. In addition, this model prioritizes the role of the community as a major driver of society in the development of edutourism. To be clearer, the model has been made in the form of images presented in Figure 4.

Based on Figure 4 it can be seen that the intensity of the role of the community and community is shaped like an hourglass. This model is basically a diagram with the X axis and Y axis. The X axis is the time that goes to the left. The Y axis is the intensity of the role between the community and the community that goes upward. The elliptical shape represents the UGG Ciletuh Palabuhanratu region which consists of core areas and peripheral regions. The line that crosses in the middle of the picture is the level of intensity of roles between communities and inhabitants. Communities and inhabitants are distinguished because these two elements have different awareness in the development of edutourism. The community is a small part of the community who aspire to develop the UGG Ciletuh Palabuhanratu into a superior edutourism area. While the inhabitants is a resident of the geopark, but their awareness has not emerged optimally as that of the community. At the bottom there is an illustration of an increase in social capital which always increases with time.

![Figure 4. Edutourism Development Model at UNESCO Global Geopark Ciletuh Palabuhanratu](source: Research Results, 2018)
Initially, this model was initiated by phase A (phase A). Phase A explains the role of the community which is far higher than the role of the inhabitants (peoples). The community must actively mobilize the community through increasing public knowledge and awareness in the field of edutourism. The community can be the "entrance" for universities and companies to provide training and seminars on edutourism in the geopark region. In addition, the community must open a wide channel of communication to the entire geopark inhabitants. This is done so that social capital (trust, care and cooperation) between inhabitants can increase. In simple terms, the inhabitants must be influenced to want to build edutourism in the UGG Ciletuh Palabuhanratu without expecting material rewards. At this stage social capital is still relatively low which has an impact on the high effort of the inhabitants.

Then, physical and infrastructure development carried out by communities and inhabitants must start from the periphery. At least the entrance from non-geopark areas to the geopark area must be clearly visible and felt by tourists. The effort was intended so that people on the outskirts of the geopark region realized that they were responsible for developing edutourism. This condition is characterized by visible physical development in the periphery. For example, the construction of entry gates and vehicle parking areas. Likewise, training and seminars must be prioritized in the suburbs. Development in the periphery will continue to the geopark central region as it increases social capital between communities and communities. In addition, the role of the community will decrease and the role of the community in the periphery will increase as a result of the success of the community’s efforts to move the community.

In the second phase, phase B (phase B), the condition of development has reached the center of the geopark. This phase is characterized by public facilities and infrastructure that are sufficiently complete, such as public toilets, worship place, sign directions, and landmarks. Besides that, the condition of human development can also be felt. For example, the majority of people in the suburbs of the geopark have realized that they are part of the geopark and are responsible for the efforts to develop the geopark region. Over time, social capital between the inhabitants and the community has become higher than in phase A. This condition will have a side effect in aspects of development. Development that was initially focused on the periphery, in phase B will continue to move to the central geopark area. Periphery inhabitants will contribute to events held in the central geopark area. The movement of humans from the periphery to the central area will be noticeable. For physical development, the geopark central area has done it first so that physical development will follow along with the high role of the community. When development from the periphery has an impact on the central region, a balance exists between the role of the inhabitants and the community. The community is sufficient to provide direction and develop a program for developing edutourism. While the inhabitants will actively participate in the development of edutourism in accordance with the direction and programs of the community. This condition is described by a point called equilibrium.

In the third phase, namely phase C (phase C), the comparison between the role of the community and the role of the inhabitants has reversed from phase A. If in the phase A the role of the community is high and the role of the inhabitants is low, the reverse phase occurs. The role of the community is low and the role of the inhabitants becomes high. The high role of the inhabitants is characterized by the emergence of professional entrepreneurial activities that support the development of edutourism in the geopark region. For example, homestay, catering, souvenirs, restaurants, transportation, and tour guides. The entrepreneurial activity has run like a gear on a machine. Move constantly and synergize with each other. That is, these entrepreneurial activities are already interconnected. The production chain has also been formed compactly.

The community is part of the community that is entitled to take advantage of the development of geopark edutourism. Therefore, their role is decreasing so that they can merge again in the community to make a living through these entrepreneurial activities. In this condition, the role of the community is a representation of the community for tourists and parties outside the geopark community. Social capital in phase C has reached its peak, although there is a possibility that it will continue to increase. Trust, care, and responsibility have been well established even though
edutourism activities have been colored by commercial economic activities. Physical and human development moves in the opposite direction, namely from the central area to the periphery. This condition indicates that the highest regional income will certainly be achieved in the central region. However, this must be addressed with equal distribution of physical and infrastructure development from the central region to the periphery. Over time, if the development in the UGG Ciletuh Palabuhanratu area is optimal, this geopark area will also have an impact on other areas outside the geopark area. That is, it is expected that the UGG Ciletuh Palabuhanratu can become the center of development for Sukabumi Regency and other regions in the southern part of West Java. To clarify the description of each phase of edutourism development, the following are strategic steps and achievement indicators in table 3.

Table 3. Strategic Steps and Indicators of Achieving Edutourism Development on UNESCO Global Geopark Ciletuh Palabuhanratu

| NO | PHASE | STAGE OF DEVELOPMENT          | STRATEGIC                                                                 | INDICATORS                                                                 |
|----|-------|-------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------|
| 1  | Phase A | Suburban area to the central area | Coordination between communities.                                          | The establishment of SOP and division of tasks in the form of inter-community work programs that are divided into geodiversity, biodiversity, and culture-diversity. |
|    |        |                               | Strengthening identity in the border area of geopark (1)                   | Construction of entrance and exit gate.                                    |
|    |        |                               | Capacity building for inhabitants in the periphery of geopark              | Inhabitants know and are aware of the urgency of developing edutourism. |
|    |        |                               | Improving the entrepreneurial skills of the inhabitants in the periphery | Inhabitants is able to manage homestay and culinary businesses to meet the needs of tourists. |
|    |        |                               | Management of land use for tourism purposes in the periphery.             | Availability of well-coordinated parking lots and also a resting place for tourists. |
| 2  | Phase B | Balance between the suburbs and the central area | Strengthening identity in the border area of geopark (2)                   | Physical entry and exit gates have been upgraded. Sign directions and landmarks for each tourist attraction are installed. |
|    |        |                               | Establishment of a production chain between periphery and central regions. | There is written cooperation between periphery and central areas that support homestay and culinary, both individually and institutionally. |
|    |        |                               | Improving the quality of tourism services.                                | Determination of one parking and homestay tariff for the entire geopark area. |
|    |        |                               | Increased educational content in tourist activities in the geopark.       | There are 50 tour guides who have mastered content geodiversity, biodiversity and culture-diversity in the UGG Ciletuh Palabuhanratu area. |
|    |        |                               | Opening of employment opportunities through entrepreneurial activities in the field of edutourism. | There is a home industry that is engaged in various souvenirs. |
| NO | PHASE | STAGE OF DEVELOPMENT | STRATEGIC | INDICATORS |
|----|-------|----------------------|-----------|------------|
| 3  | Phase C | Central area to suburbs | Improved quality of land use focusing on the field of edutourism. | Construction of supporting infrastructure and arrangement of parking lots. |
|    |        |                      | Increased flow of information about geopark to tourists. | There is an information center that serves tourists with a constant schedule. There are official websites and social media accounts that are professionally managed. |
|    |        |                      | Equitable business activities in supporting edutourism. | There is zoning for various tourist activities carried out by visitors. For example, culinary tourism zones, cultural tourism, and special interest tours. |
|    |        |                      | Strengthening entrepreneurial activities that support edutourism. | There is a special building to produce souvenirs and processed foods typical of UGG Ciletuh Palabuhanratu. |
|    |        |                      | Improved financial management originating from edutourism activities. | There are joint fund management institutions originating from contributions of each business actor in the geopark area. The funds will be used independently to build and maintain infrastructure and public facilities. |

4. Conclusion

The potential for developing edutourism in the UGG Ciletuh Palabuhanratu is very high. This can be seen from the level of local community participation and their tendency to contribute more actively. The role of the community is already good. But the role carried out by the inhabitants and the community is known to be not optimal and well-coordinated. Therefore, the model of developing edutourism in the UGG Ciletuh Palabuhanratu was made so that both elements could work together without having to depend on the government or corporate. This model of developing edutourism is an idea proposed based on factual conditions in the field. This model consists of three phases which are built on three things, namely (1) interaction between inhabitants and community; (2) increase in social capital; (3) development of the periphery and the center of the geopark area.

Based on the research that has been done, the author intends to recommend two things. First, the development of edutourism requires a long educational process for the inhabitants. Therefore, the active role of educational institutions, especially higher education, is very much needed in realizing a knowledgeable society and able to empower themselves. Secondly, currently the economic condition of the inhabitants is still not enough to develop their business in the tourism sector. The inhabitants have not been able to compete with big entrepreneurs in the tourism sector. So, the role of the government is highly expected to protect the efforts of inhabitants from foreign investors who intend to dominate the tourism market in the UGG Ciletuh Palabuhanratu. This is so that the economic activities of the inhabitants are not taken over by people who are not native to the geopark.

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