Pentahelix synergy in realizing ecovillage values in the Cijalingan village community of Cicantayan Sukabumi district

M. Hidayat*, R. W. A. Rozak, M. D. Kembara, E. Baihaki
Department of General Education, Universitas Pendidikan Indonesia, Jln. Dr. Setiabudi No. 229, Bandung 40154, Indonesia
* hidayatmupid@upi.edu

Abstract. In 21st century, people must be able to think HOTS (Higher Order Thinking Skills). HOTS thinking greatly influences the way of life of the community, especially in developing the region. The central government has supported the community to build independent village by giving village funds. However, this has not been going well because the use of village funds has not been maximized. The use of Pentahelix model is an effort to reach an independent village with the concept of ecovillage. In the study used a descriptive qualitative approach with the main data interview and direct observation. Based on the results of interviews shows that the use of village funds only focus on renovation and development and improvement of village infrastructure. Observation results show that Cijalingan Village has the potential become a tourism village with its natural panorama. The people of Cijalingan Village have handicrafts in the form of sandals. It is very supportive to side with the concept of a tourism village, so that in the end it is able to become an independent village.

1. Introduction
The development of industry 4.0 in Indonesia has many benefits in terms of economy and the development of science and technology. The society is increasingly facilitated and even tends to be spoiled by technology. However, many negative things arise from the development of the times, including increasingly visible social inequality, regional development inequality, environmental pollution, and others ([1]; [2]). This is a negative partial of the development of civilization.

Regions in Indonesia can utilize the concept of ecovillage based on local wisdom they have. In addition, it can also utilize the pentahelix model to develop regional potential without abandoning the virtues of each region. The pentahelix model has been running since 2018 in West Java in an effort to return the Citarum River to the best condition [3]. Then, in the previous year, the Pentahelix concept of synergy with ecovillage was implemented in Kali Baru Katulampa, Bendung Village, Ciawi, Bogor [4].

The Pentahelix Model is a collaborative concept of stakeholders, namely business, public administration, local residents, the knowledge sector, and capital [5]. The pentahelix model is better known as the ABCGM concept, namely Academician, Business, Community, Government, and Media [6]. The main key to the success of this innovation is strong synergy and commitment among stakeholders. Academicians act as drafters supported by investors and assisted by people who have the same desires and interests in developing the region, and assisted by publications and promotions from the media. The regional government has the role of supervisor and policy maker that is relevant to efforts to develop the region [7]. The concept is in accordance with the criteria and development of a
tourist village that requires contribution and synergy of each component in the community ([8]; [9]; [10]).

The pentahelix model is very useful for managing actor-based complexity [11]. Each line plays an important role in developing regional potential, for example academics, with knowledge power expected to emerge the concept of development that is more efficient, inexpensive, and environmentally friendly. Likewise with the contribution of other stakeholders, they must work together to achieve the goals formulated ([12]; [13]). Pentahelix and ecovillage can contribute to the development of tourism villages that improve the socio-economic community ([14]; [15]; [16]).

The pentahelix concept is very synergistic with ecovillage or vice versa. Pentahelix is the concept of the actors who will develop the potential of the village with the ecovillage model. Cooperative culture is at the heart of the ecovillage approach [17]. Cooperative culture is not just about sharing (though that is an important part of it) - it is largely about a way of interacting that places relationships at the center [18]. Planning based on community participation, such as ecovillage, is generally more sustainable than planning based on short-term project activities [4]. The community's role is to provide a harmonious way of life with ecovillage values in harmony [19]. This is the impact of the concept planned with the implementation management in ecovillage.

It is necessary to have insight into ecovillage values in a relevant way so that they can work according to the work plan [20]. What is needed then is greater attention to the way of thinking about the regions that will be developed by paying attention to ethics towards nature [21]. This requires the ability of people to think HOTS. Of course this becomes a mutually reinforcing synergy if it has been supported by the ability of the community to think and play an active role in developing the region ([22]; [23]). HOTS thinking ability will be able to maximize the potential of the village to develop without leaving or damaging the existing heritage.

HOTS thinking ability includes abilities desired in the 21st century, such as communicating, collaborating, critical thinking, and creative thinking so as to bring out new creativity and innovation [24]. The ability of HOTS allows for critical thinking in making decisions to overcome problems, working with each member to get creative and innovative thinking [25]. This strongly supports the Pentahelix model which is going to be implemented in Cijalingan Village.

2. Research Methods
In the study used descriptive qualitative methods that focus on the analysis of the data obtained, namely interview and observation data. Characteristic of qualitative research is the absence of environmental conditioning so that it is centered on the process of research and data collection [26]. The data used in the discussion are the results of interviews with the Head of Cijalingan Village and the results of observations photographing the potential possessed by the village and the community to be developed into ecovillage concept tourism villages. The data obtained were then analyzed and designed the initial mapping for the development of Cijalingan Village.

3. Discussion
3.1 Profile of Cijalingan Village

Cijalingan Village has an area of 242,756 Ha. The area is inhabited by 8164 inhabitants with a total male population of 4028 people and 4136 women. The fairly even distribution of gender enables the region to maximize various aspects, for example rice fields, fields and creative industries. The productive age in Cijalingan Village is categorized as many because almost half are productive age, that is 41% with the distribution of ages 18-25 as many as 1075 people and ages 26-45 as many as 2278 people. A very large number to be able to sustain Cijalingan Village to become an independent village and tourist village.
Natural potential is also spread widely in Cijalingan Village, namely fields, rice fields, waters, ponds, and hilly panoramas. These potentials are integrated with one another, so the goal of becoming a tourist destination is very possible.

3.2 The Pentahelix Model in Cijalingan Village

The concept of pentahelix is collaboration between components in society. Each component contributes based on its distribution. Each of these components does not work alone, but runs in the same vision and mission in developing and optimizing village potentials. The community component is shown in Figure 2 as follows.

3.2.1 Academician

Academics became the first attempt at synergy in Pentahelix. The function of academics is to conduct research to find hidden potentials in Cijalingan Village to be developed into independent villages, tourist villages, cultural villages, etc. The advantage of involving academics is that they can maximize the potential of the village, but do not damage the environment, local wisdom, cultural heritage because what is thought is not just looking for profit. Thus, the concept of ecovillage can be embedded in village development. The main thing of the research conducted is to publish the results so that it can be known by many people. Forms of publication can be journal articles, seminar articles, mass media articles, or even become the main theme of the seminar. In addition, academics can form a forum and provide training to local academics owned by the village. Based on data in 2018 in Cijalingan Village there were 127 people registered as students in various universities. This is the capital to develop the village by utilizing indigenous potential.

3.2.2 Business

This stage is the next important stage to develop the village into a tourist destination. The local community and government must work together with investors or companies. In this stage, it does not mean the company must take over and manage the tourist destination. If that happens, then there will not be an independent village or tourist village, because all profits will be received by the manager / company. Cooperation with investors is to make Cijalingan Village a tourist destination, meaning that the intended investor is a company engaged in the world of tourism and traveling. Thus, both parties will benefit from the agreed cooperation. There is no concept of mutual mastery.

3.2.3 Community

The people of Cijalingan Village, with a total of 8164 people, will act as the main figures who develop and maintain the village. Because those who will always be involved are the people of Cijalingan Village. The development of competence, insight, and character must be intensively carried out so that
the Pentahelix concept can synergize with ecovillage values. Communities in the village did not escape the development of these competencies, such as Youth Organization, PKK mothers, community leaders, community leaders, and other parties in the village environment. Thus, a strong society will be created so that it will be able to manage the village better. In addition, people can form new communities that are integrated with tourist destinations in the vicinity.

3.2.4 Government
The party holding the stakeholders is the government must act and make regulations that are beneficial for the development of villages and communities. The intended government is at the village, sub-district and district levels. The village level government led by the village head must be able to move the community so that they are willing and able to work together with other parties. In addition, the regulations made must be based on the interests of the community and villages by prioritizing the values of local wisdom. The administration in Cijalingan Village has put forward the development of adequate infrastructure by utilizing village funds provided by the central government. This is the main capital for village development, because adequate access will facilitate the processes of independent village development. In addition, the thing that must be considered by the government is the development of human resource potential, namely the people of Cijalingan Village.

3.2.5 Media
The final stage of synergy is the role of the media to disseminate information about tourist destinations and handicrafts owned by Cijalingan Village. The intense dissemination of information will make people curious to immediately visit the source of information. Thus, information dissemination cannot be done by one party, but all parties involved in the Pentahelix concept must contribute to publicizing, promoting the destination of Cijalingan Village. The easiest publication can be done using social media, mass media, distributing booklets, banners, or even utilizing local governments to conduct work visits to Cijalingan Village. The Pentahelix concept in Cijalingan Village must be able to work well together, because every component involved in village development has the same capacity and urgency. There is no one party that is more important than the other. Thus, the synergy is expected to develop villages with ecovillage values.

3.3. Potentials of the Community and the Cijalingan Village
Cijalingan Village has various potentials to become tourism villages. These potentials have already taken place in villages with different distribution. Each potential does not overlap with others. Next is the mapping of the distribution of the potentials of Cijalingan village.

![Mapping of Potentials in Cijalingan Village](image)

Figure 3. Mapping of Potentials in Cijalingan Village
3.3.1. Potential Tourism Village
Based on observations in the Cijalingan Village produced a variety of interesting findings, namely the potential to develop creative industries and the potential to become a tourist village. Creative industries are scattered in the Cijalingan Village area, including souvenir craftsmen, footwear craftsmen (sandals), fiberglass craftsmen and the manufacture of sports equipment. The creative industry is the initial capital that has the potential to develop the village into an independent village or its big destination is a tourist destination. This is supported by the natural panorama that stretches in the Cijalingan Village. In addition, agriculture (rice fields, fields), fisheries can be modified into an artificial farm for tourist destinations, because many residents maintain livestock, such as cattle, goats, chickens, etc. The shadow of being a tourist destination is inevitable in this area, of course this requires a sustainable roadmap.

The concept of a tourism village by utilizing agriculture, that is, can be a means of educating tourists to learn to plant rice seeds, plow their fields, arrange irrigation, eat in a gazebo in the middle of rice fields, harvest fruits in the garden, feed livestock, etc. This can be an attraction for people in urban areas who in fact can not feel that way. This gets superior points with added natural scenery with a background of mountains and mountains.

The concept is added with different tourist destinations/locations on the other side of Cijalingan Village, namely fisheries. Visitors can be spoiled with the sensation of catching fish, feeding fish, eating in a floating place, etc. then the public can be invited to see the making of souvenirs typical of Cijalingan Village, or even visitors can make their own designs to take home souvenirs. This is done based on supervision from parties who have the authority. Then, visitors can have another distinctive craft, namely footwear. Visitors can participate in making footwear according to their wishes or buy what is available. In addition, visitors can dine while relaxing with typical food served in Cijalingan Village.

This will make Cijalingan Village a complete package to become an independent village and tourism village. Nature tourism integrated with typical craft centers is expected to attract many tourists. Things that must be considered are the availability of special vehicles in Cijalingan Village to increase the attractiveness of visitors in traveling around the village, so that pollution caused by vehicles carried by visitors can be minimized.

3.3.2 Potential of Creative Industries
The potential that can be developed in Cijalingan Village is the creative economy. In Cijalingan Village, 66 industries have been formed and are established, with details, 13 home industries, 41 small industries, 11 medium industries, 1 large scale industries. This should receive attention, especially in the home industry and small industry. There is a creative industry that is the foundation of the village, namely the center of footwear craftsmen. Attractive design and quality that can compete with trademarks in the market, this industry is growing. Its development is in line with the amount of waste generated from the remnants of cutting, footwear formation. The waste has so far only been burned, not utilized as other creative industries.

The waste can be used as valuable goods, for example formed, assembled into children's toys made of rubber, such as miniature cars, houses, letters, etc. In addition, it can be used as a key chain, wall decoration, doormats, and other forms of interest in the market. This will certainly be more profitable, because it utilizes unused items (footwear waste). Then, footwear craftsmen can utilize technology to spread on social media about footwear designs that are made specifically and limited edition.

Another creative industry is fiberglass craftsmen in making car bumpers. Things that can be developed is to expand the target market segmentation, not limited to car bumpers. Society can develop it by entering the world of motor modifications. This will be very beneficial, because users and enthusiasts of motor modifications in Indonesia are numerous. The community can utilize their expertise in forming fiberglass into a modification tool or sell plug and play modification packages. These development efforts must receive special attention from the stakeholders involved in pentalelix.
4. Conclusions
Developing the potentials of the village can be done with the cooperation and hard work of all those who care about the village. This must be done with a systematic work concept, so that village development can run smoothly and promote environmentally friendly villages, as contained in ecovillage values. Aside from being environmentally friendly, village development is also oriented to the welfare and interests of the community. Thus, the human resources available in Cijalingan Village must be optimized in terms of HOTS abilities, skills and ways of thinking.

Before that can happen, of course there must be cooperation between stakeholders involved in Pentahelix. Then the ecovillage values applied must function and work properly, for example sanitation, industrial waste, etc. in order to create an environmentally friendly village. This is very reasonable, because the development of the village, allows environmental damage. This is where the importance of instilling ecovillage values in efforts to develop villages with the Pentahelix concept.

Good synergy and planning in accordance with ecovillage values will be able to develop the potentials of the village without leaving local wisdom, even local wisdom can be a special attraction in developing villages. In addition, it must be able to develop the community into superior human resources as desired by the central government.

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