

## The Pentahelix Model in the Development of Agro-Culture-Based Edutourism in the Taman Nasional Bromo Tengger Semeru Buffer Village Area (A Study in Tosari Village, Pasuruan Regency and Sapikerep Village, Probolinggo Regency)

### *Model Pentahelix dalam Pengembangan Eduwisata Berbasis Agro-Culture Di Kawasan Desa Penyangga TNBTS (Studi Di Desa Tosari, Kabupaten Pasuruan dan Desa Sapikerep, Kabupaten Probolinggo)*

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#### ABSTRACT

Tosari and Sapikerep villages are two villages in the TNBTS area which are included as one of the priority areas in Indonesia. Nature tourism or agro-tourism and cultural tourism are the characteristics of the two villages. Thus, Agro-Cultural based Edutourism is one of the potential developments in the village area. The pentahelix development model is considered appropriate because it is known that the two villages collaborate with 5 roles, namely government, private sector, academia, mass media, and the community. This article is the result of research conducted for 2 months using a qualitative method with data collection techniques through in-depth interviews, focus group discussions, and observations, where research was conducted to fully describe how the pentahelix collaboration pattern occurred. As a result, the role of various actors in the pentahelix collaboration model is quite optimal. From a regulatory perspective, the central government and regional governments have shown their role where basically the two villages have become part of the tourism priority villages which in terms of infrastructure are maximally supported by the central government. As well as with regard to licensing, it is very easy to take care of development permits and public facilities that support tourism businesses and make it easier for tourists. From the private sector, many companies and investors started arriving to work together in the two villages, through their Corporate Social Responsibility pattern. On the other hand, the media also plays an important role in efforts to introduce tourism potential so that it is more widely known by tourists, while academics work together in terms of planning that is in accordance with science, as well as the active role of the community which turns out to be open and mutually willing to build villages.

**Keywords:** *agro culture, edutourism village, pentahelix*



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## INTRODUCTION

Taman Nasional Bromo Tengger Semeru (TNBTS) is a forest area that functions as a nature reserve and tourism forest. The attractiveness and popularity of TNBTS continues to attract tourist visits, both domestic and foreign. The table below presents tourist arrivals from 2013-2015 through the four entrances of TNBTS.

**Table 1.** Data on Tourist Visits to Bromo Tengger Semeru National Park 2013-2015

| Year/Entrance      |                   | 2013    | 2014    | 2015    |
|--------------------|-------------------|---------|---------|---------|
| <b>Probolinggo</b> | Domestic tourists | 288,137 | 228,724 | 141,250 |
|                    | Foreign tourists  | 21,265  | 15,702  | 8,674   |
| <b>Pasuruan</b>    | Domestic tourists | 129,846 | 109,875 | 97,074  |
|                    | Foreign tourists  | 7,727   | 4,657   | 4,248   |
| <b>Lumajang</b>    | Domestic tourists | 48,996  | 141,327 | 85,245  |
|                    | Foreign tourists  | 848     | 2,628   | 1,466   |
| <b>Malang</b>      | Domestic tourists | 50,587  | 33,634  | 33,426  |
|                    | Foreign tourists  | 2,992   | 1,466   | 2,628   |

Source: Utami, 2017.

On the one hand, the dynamics of tourist visits creates tourism activities that have a real economic impact on the central government, local governments and tourism industry players. The people of Tengger also feel the trickle-down effect due to the policy made by TNBTS which allows residents from the buffer villages to run a tourism service business. Thus, the local community not only runs a farming business but also captures tourism business opportunities such as jeeps rental, villas, horse 'taxi' and food stalls. With this business diversification, they are able to accumulate capital and increase wealth (Sazjiyah, 2020).

On the other hand, the massive tourism activities in TNBTS as well as encroachment and forest fire problems have the potential to threaten the carrying capacity of the environment. Walhi East Java has made a critical note regarding the management of TNBTS which should be returned to its essence, that is as a conservation area. National parks are established to save areas with abundant biodiversity. Before the state came, the area had been managed by indigenous peoples with local knowledge and local economy without destroying even one single point. The existence of a national park should be a protection for the locality of indigenous peoples, which in this case is protecting values, morals and ethics or saving traditional knowledge (Styawan & Lila, 2022).

The polemic of discourse between economic and ecological interests in TNBTS continues to this day. Various regulations have been issued by TNBTS to maintain the carrying capacity of the environment, such as by closing or limiting tourist visits during the Covid-19 pandemic and limiting visits during celebrations of the Tengger people's holidays. However, this did not stop the involution of tourism in TNBTS. Apart from measures taken by TNBTS, efforts to support the maintenance of the carrying capacity of the environment were also done by the local community. People who initially pursued the tourism service business in TNBTS began to shift their activities to their respective villages by participating in the development of tourist villages with the concept of community-based tourism (Utami, 2017).

The initiative to start a tourism village in the TNBTS buffer zone is a manifestation of village development which indirectly reduces the community's dependence on TNBTS in accessing sources of income. The development of tourism villages in TNBTS buffer villages is important to be studied because this effort is included in the national priority program, according to village authority, and has an impact on the dynamics of village communities (Kushandajani, 2015). The concept of a tourist village is considered as a way to improve people's welfare. Tourist villages are believed to be able to open new job opportunities for the community.

The management of the tourist village adheres to a profit-sharing system which is the opposite of a business-oriented system. Therefore, the benchmark for the success of a tourist village is not only an increase in income but community participation in obtaining welfare. In a tourist village, various parties benefit from it and the village remains sustainable (Giri, 2019). In other words, tourism villages are

formed to empower village communities, build a people's economy and create national resilience through independent villages (Sutoro, 2014).

Some of the positive impacts identified from the existence of tourist villages include increasing demand for local agricultural products, spurring the development of less productive land, encouraging the development of new economic areas, encouraging the spread of economic activity and revitalizing infrastructure to remote villages (Vga & Hakim, 2018). The success of a tourist village is when it has made the village become famous, has village original income, involves community participation and diversifies the variety of job opportunities (Maschab, 2013). The management of a tourist village is greatly supported by the roles of the actors involved in it. Usually, the actors who play a synergistic role to support the success of a tourist village include government, private sector/business, academia, the community and the media. The interactive relationship between these five elements is called the pentahelix model (Novianti, 2021).

In line with this reality, this article is the result of research that looks at the relationship between the government, the private sector, academia, the community and the media in the development of tourist villages in the two supporting villages of TNBTS, namely Tosari Village and Sapikerep Village. The tourist village in Tosari is named Baladaun and has an edutourism concept that combines the attractions of agricultural activities with Tengger culture. The services offered include vegetable cultivation, nature conservation education, Tengger culinary/snacks, customs, variety of dialects and languages of the Tengger traditional arts, manuscripts, rituals and social knowledge. This tourist village was initiated by a Tengger community leader who saw the potential of Tosari village and the culture of the Tengger community to be packaged as an alternative tour package besides TNBTS. The sustainability of the Tosari tourism village allows the local residents to have a variety of jobs in agriculture as well as tourism services because the targeted visitors are groups of tourists who want to live in the village (Soleh, 2014).

Meanwhile, the tourist village in Sapikerep Village is used as a comparison for the tourist village of Tosari Village because both apply the concept of edutourism. The difference is, the Sapikerep tourist village offers village natural attractions and an educational center for strawberry cultivation. Unfortunately, since its inception, strawberry edutourism has experienced ups and downs and is even predicted to go bankrupt due to the unpreparedness of *pokdarwis* (tourism awareness groups) in managing strawberry edutourism starting from strawberry breeding, business management, marketing and business unit umbrellas. Looking at the comparison of the conditions of two villages that both offer edutourism, it can be concluded that the development of edutourism requires the synergy of the five actors who can support it, namely the government, business, academia, the community and the media. Thus, this study has a general purpose, namely to identify the role of pentahelix actors in supporting the sustainability of tourism villages in Tosari Village and Sapikerep Village.

This article has two main points which are research questions and research objectives. First, this article will elaborate on the forms of government, business, community, academia and media (pentahelix) participation in the development of tourist villages with the concept of agro-culture-based edutourism in Tosari Village, Pasuruan Regency and Sapikerep Village, Probolinggo Regency. Second, this article will present a model of synergistic interaction between government, business, society, academia and the media (pentahelix) in the development of tourist villages with the concept of agro-culture-based edutourism in Tosari Village, Pasuruan Regency and Sapikerep Village, Probolinggo Regency.

An important aspect of this article is that there is an alternative tourism management model that involves pentahelix actors so that tourism involution in TNBTS can be minimized. In addition, the ecological sustainability and resilience of the biosphere reserve in TNBTS can be maintained even though tourism activities cannot be stopped. The interesting thing from this research is that the concept of the pentahelix is commonly used in the tourism development process in any area, but in fact in the area of the TNBTS area there have not been many tourist villages that have implemented the pentahelix collaboration, except in Tosari Village, Pasuruan Regency and in Sapikerep Village, Probolinggo Regency. Therefore, the research outputs which are then presented in this article are expected to be a reference for other regions in the TNBTS area to optimize the roles of actors such as academics/ university, private sector, government, community and media in the development of tourist villages.

## METHODS

The method used in this research is qualitative with data collection techniques observations, interviews, documentation and Focus Group Discussion. The purpose of descriptive research in this study is to systematically describe the relationship between the phenomena investigated, namely the pentahelix model with agro-culture development in the buffer villages of TNBTS. This method is suitable in this study because the authors are trying to find a picture of how actors are involved in the development of tourist areas in the TNBTS area. The research process was carried out from September to October 2022, with data collection techniques through interviews as much as 2 times: first with the Village Head, and second with the Tengger Traditional Leader who is also the Chairperson of the Pokdarwis. The FGD was held once by inviting the Village Head, Traditional Leaders, Head of the Bala Daun Community, Tengger Social Media Coordinator, Tengger Tourism and Culture Actors, 3 Community Representatives and Representatives from Private Parties (in this case representatives of hotels, resorts and industries that back up corporate social responsibility programs around Tosari and Sapikerep). At the end, the authors analyzed the data using the triangulation method. Triangulation is a technique of checking the validity of data that utilizes something else in comparing the results of interviews with the object of research. Triangulation can be done using different techniques, namely interviews, observation and documentation (Creswell & Creswell, 2018).

## RESULTS AND DISCUSSION

### The Development of Agro-Culture-Based Educational Tourism in the Buffer Village Area of TNBTS

Tosari Village is a village located in Kabupaten Pasuruan. This village is located in the highlands up to an altitude of 1,800 meters above sea level. There are 6 *dusun*/hamlets in Tosari Village, namely: Kertoanom, Ledoksari, Tlogosari, Tosari, Wonomerto, Wonopolo. Currently, Tosari Village has been designated as a tourist village with a decree number 556.4/272/HK/424.013/2022 as of last July which was issued by the Kabupaten Pasuruan. The existence of a decree on Tourist Villages makes Tosari Village one of the villages currently trying to develop various kinds of potential, especially in its tourism potential.

Tourism potency is one of the main topics discussed in Tosari Village because it is felt that it is starting to become a source of income. In the beginning, something that was considered as a just crops cultivation, with the emergence of the concept of a tourist village, could become one of the potentials that can be highlighted. The community began to map the potentials that existed in the village, especially regarding the potential that existed in Tosari Village namely:

- a. Natural Potential: Bromo, Tengger, Semeru (BTS) tourism is one of the 10 best tours in Indonesia. Thus, the existence of the BTS is an attraction for domestic and foreign communities to be able to visit via the Tosari Village route.
- b. Cultural Potential: Tosari village belongs to the Tengger tribe, so there are many customs and cultures that can attract the attention of tourists to know and learn more about the Tengger tribe.
- c. Educational Potential: In this case, the intended education is to provide a lot of basic information and the philosophy of everything in Tosari Village, starting from planting tree seeds, making batik in the style of Tosari Village, to understanding the meaning of everything in Tosari Village.

The mapping carried out by the people of Tosari Village turned out to be able to offer education-based tourism and agro culture. If in some villages they only provide the charm of TNBTS, in Tosari Village they provide a live-in experience for visitors to be able to experience the daily activities of Tengger residents to understand the meaning of each Tengger custom and culture. This is what makes Tosari Village different from other tourist villages.

Currently, Tosari Village has officially become a Tourism Village as of July 2022, so that the community was jointly in the early stages of planning the Tosari Tourism Village. During the interview, one of the heads of *Pokdarwis* (Tourism Awareness Group) said that their focus was on the "Living Museum". The Living Museum here is the traditional and cultural side of Tosari Village that is more highlighted, then the natural potential side is a bonus from planning village goals (Purnomo et al., 2018).

One of the villages located in the Bromo Tengger Semeru National Park (TNBTS) area, apart from Tosari Village, is Sapikerep Village, a village located in Kecamatan Sukapura, Kabupaten Probolinggo. One of the tourism potentials in Sapikerep Village is Mount Bromo, which is the main icon in East Java, or can even be said to be one of the most crowded visits every year. Data on the number of tourists who come to Sapikerep Village shows that there is an increase every year. The increase started to occur in 2012 when it reached up to 129%. Until now, in 2022, there is also a significant increase. Even though from 2019 to 2021, the visits experienced a decrease due to the Covid-19 pandemic, when tourism opened in 2022, there was an increase of up to 106% of tourist visitors.

Sapikerep Village is one of the accesses to Bromo via the Probolinggo route. Here, the people of Tengger still closely stick to the prevailing customs. The fertile agricultural land as well as the cold air naturally makes Sapikerep in great demand by tourists when they are transiting through the Probolinggo route.

Similar to Tosari Village, in terms of its natural potential, Sapikerep Village is included in the TNBTS area where the central government has listed it in the top 10 priority areas in Indonesia due to their tourism, culture and natural factors. The cultural potential in Sapikerep Village is one of the potentials that is still strong in tradition. The potentials range from their daily wear of Tengger sarong to the traditional and religious ritual ceremonies that are still often carried out by the Sapikerep community. There is also agro-tourism potential where the land is in Sapikerep. Based on the monograph data of Sapikerep Village, the agricultural land area is 526 ha and the number of farmers is 1840 people. This means that there is land that can still be managed and utilized properly by the people of Sapikerep Village.

Basically, the agricultural use in Sapikerep and Tosari Villages has many similarities in terms of village potential. Even the use of land development also has something in common, namely edutourism efforts so that people who come to see Bromo can be more familiar with the customs that can be served and felt by tourists. While Sapikerep Village is rich in lodging which is being managed by the people, as well as jeep/hardtop associations as a mode of transportation to take tourists to Bromo, Tosari also has the same natural potential that can be utilized through strengthening tourism by incorporating cultural and educational elements. Thus, the management carried out by the Tosari and Sapikerep communities actually has one goal in common which is to advance their tourism by involving cultural education, although geographically their locations are different.

Tosari Village began to bring up the term *live-in* where visitors, apart from being escorted to Bromo, will also experience being local residents living in Tosari Village. Meanwhile, Sapikerep Village has begun to open strawberry picking tours which are being managed by the community to provide information about the benefits, how to plant, and how to cultivate the land for strawberry plants. In this case, the two villages provide innovation by exploring the potential to maintain the original cultural heritage and continue to strengthen agricultural potential.

### **The Pentahelix Model in the Development of Agro-Culture-Based Edutourism in the Buffer Village Area of TNBTS**

The Pentahelix model has now become an innovation and a new strategy for dealing with several problems that occur at various levels of government, both central and regional. In its development, many have implemented the pentahelix collaboration model in various issues such as environmental problems, urban planning, disasters, tourism, and the utilization of the potential of MSMEs for economic sustainability in society (Chambers, 1988). The pentahelix concept was introduced for the first time in 2016 by the Minister of Tourism at that time, Arief Yahya, as one of the approaches in tourism development. The pentahelix concept can be explained as a governance of the complexity of the interests of related stakeholders to achieve common goals in a collaboration.

Conceptually, the pentahelix concept is related to the concept of collaborative governance. The concept of collaborative governance is one form of governance carried out in government by collaborating with various other parties to achieve common goals, especially in the implementation of programs and public policies (Ardhanariswari & Pratiwi, 2021). Collaborative governance is carried out by two or more parties in implementing a public policy with the aim of increasing the public value of a public policy. According to Ansell and Gash, collaborative governance is as a governance carried out by the government in collaboration with stakeholders outside the government body, which are oriented towards consensus and deliberation to obtain the results of joint decisions in making or implementing a public

policy or government program (Ansell & Gash, 2008). The main focus in the concept of collaborative governance is collaboration between the actors involved in it. A public policy cannot achieve its goals if it only involves one party as the executor. Collaboration with other parties is needed so that the goals of public policy can be achieved (Ansell & Gash, 2008).

Collaboration carried out in collaborative governance requires every actor involved in making and managing public policy to take part in every activity, starting from formulation to implementation and evaluation. Even though each stakeholder who participates in the collaboration process has their own interests, it should be remembered that consensus on the public interest is the main thing that needs attention. Seeing the fact that the government cannot stand alone in implementing a policy, it requires the involvement of parties outside the government to participate in taking their respective roles. The actors involved in the concept of collaborative governance are not only found in the government as internal actors, but there are also other external actors which can be said to be multi-partner governance consisting of three actors involved, namely government, business (private sectors), and civil society. The concept of the involvement of three actors is also related to the concept of the triple helix which is the beginning of the pentahelix concept (Muhyi et al., 2017).

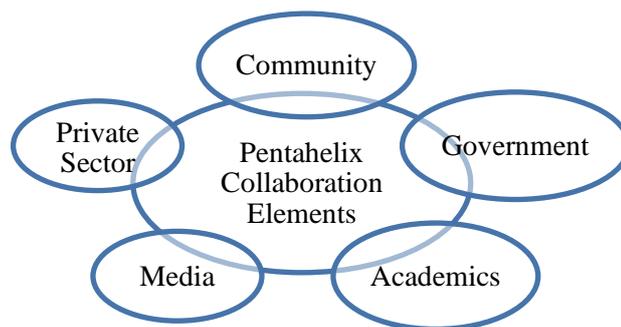
The helix concept was born as an initial theory in creating innovation in a field or a sector. The innovation that occurs is the result of a collaborative relationship between the actors involved or related stakeholders. Stakeholders are groups or individuals who have an interest in a problem or a program to be implemented. Stakeholders involved in a public policy can influence each other in an effort to achieve and implement the public policy. The first helix concept that was born was the triple helix concept. The triple helix concept is the initial design of the pentahelix concept. The triple helix concept was first developed in the 1990s by Henry Etzkowitz and Loet Leydesdorff. The triple helix concept consists of three stakeholders in collaboration, namely Academics, Government and Business (Private sectors) (Lawton Smith & Leydesdorff, 2014). The triple helix concept uses a top-down approach to examine an innovation or the development of a policy. In the triple helix concept, innovation is created by the business sector, knowledge by the academic sector and the two stakeholders work together with the government in applying what they get into a public policy (Lawton Smith & Leydesdorff, 2014).

There has been a development from the triple helix concept to the quadruple helix concept which consists of 4 stakeholders, which is by adding civil society or the public in the stakeholders involved in public programs or policies. The quadruple helix concept was born as an answer to criticism of the triple helix concept which does not really see the people/society as one of the stakeholders, namely as users of public policy itself. The society is seen as a stakeholder who knows more about what is needed by the community itself, so that in the quadruple helix concept the society is one of the spearheads. Quadruple helix uses a bottom-up approach in its development. This concept also sees the community or the society as users of these public policies, so that creating an innovative development of public policies should adhere to what is needed by the community (Muhyi et al., 2017).

In general, the Pentahelix model is a collaborative activity between lines/fields consisting of Academics/Higher Education, Business/Private Sector, Community, Government, and Media, usually known as ABCGM. The Penta Helix element originally started from the Triple Helix which only involves three actors including Universities, Private Sector, Government, which was then added with one element, Civil Society (or Communities), to become the Quadruple Helix, to accommodate the perspective of society, which has also become an integral part of innovation in the 21st Century today (Muhyi et al., 2017). Furthermore, the Communities element not only opens opportunities for cross-disciplinary configurations and networks, and liberates the concept of "innovation" from mere economic considerations and goals, but also involves creativity as part of the knowledge and innovation production process (Mašek Tonković et al., 2015). The Quadruple Helix concept is then added with an important element in the pillars of democracy and national life, namely the Media, because in the context of developing the creative economy and solving various societal problems, the Media (both conventional media and social media) play a significant role, although they are still an independent element or indirectly affected by other elements in carrying out its parts or functions (Satari & Asad, 2016).

Concretely, several sectors that collaborate in Pentahelix have their respective roles and tasks that synergize with one another. First, Academics in the Pentahelix collaboration concept act as drafters. Academics, in this case, are a source of knowledge with the concepts, novel theories that are relevant to existing conditions. Second, the private sector in the Pentahelix model acts as an enabler (Vani et al., 2020). The private sector is an entity that carries out business processes in creating added value and maintaining sustainable growth (Halibas et al., 2017). The private sector can act as an enabler that

provides technology and capital infrastructure through existing corporate social responsibility mechanisms. Third, the Community in the Pentahelix model acts as an accelerator (Mašek Tonković et al., 2015). In this case, the community can act as an intermediary or become a liaison between stakeholders to assist the community members in the whole process. Fourth, the government must act as a regulator as well as a controller who has regulations and responsibilities. In this case, it involves all types of activities such as planning, implementation, monitoring, controlling, promotion, financial allocation, licensing, programs, legislation, development and knowledge, public innovation policies, support for innovation networks and public-private partnerships (Soemaryani, 2016). The government also has a role in coordinating the stakeholders that are involved. Finally, the media must be able to act as an expander. The media plays a role in supporting publication and carrying out the dissemination function to the public (Yunas, 2019).



**Figure 1.** Involved Actors in Pentahelix. **Source:** Researchers, 2022

The picture above explains how the pentahelix collaboration can become one unit. In Tosari Village and Sapikerep Village, collaboration between actors has been carried out. At present, Tosari Village has officially become a Tourist Village as of July 2022, so that the community was jointly together in the early stages of planning the Tosari Tourist Village. During the interview, one of the heads of the *Pokdarwis* (Tourism Awareness Group) said that their focus was on “Living Museums”. The Living Museum here is the customary and cultural side of Tosari Village which is highlighted more, and the potential side of Nature is a bonus for planning village goals.

Regarding the tourism that was formed, its implementation has been running, and it turns out that Tosari Village has many parties participating in building the village. The first is the government. Here the government is divided into 2 namely central and village. The central government, which is the Ministry of Tourism and Creative Economy, turned out to have contributed by directly conferring the title of Tourist Village to Tosari Village, as well as several other ministries such as the Unit Pelaksana Teknis Dinas Balai Latihan Kerja (UPTD BLK), which began to provide direct assistance and support to Tosari Village. The Village Government also contributes to support regarding the development of the potentials that exist in Tosari Village through the formation of *Pokdarwis* as well as collaboration with Badan Usaha Milik Desa (BUMDes) in relation to tourism management.

The second involved party is from the side of the local community where basically the community's participation in developing Tosari village has been very good. Even before it became a Tourist Village, there were already several associations formed by *Pokdarwis*, among them are the youth association (*karang taruna*), homestays, hardtops, batik community, arts as well communities that focus on greening such as Bala Daun in Tosari Village. The third party is Business/Private sector where the involvement of each event in implementation cannot be separated from collaboration with private sectors, as in the case of reforestation where the Bala Daun community in Tosari Village worked together with CSR from Danone regarding the provision of tree seeds such as pine trees. The last is the mass media. The media in this case are related parties who promote the potential of Tosari village. Even though the focus on doing promotion has not been fully done yet, the information has been published on several social media such as Facebook, Instagram, and websites.

Meanwhile, in Sapikerep Village, the first party is the government. It turns out that the central government and the village government have taken part in giving the symbol of a tourist village to Sapikerep village. Sapikerep Village is designated as one of the priority villages in terms of developing the tourism sector with regards to infrastructure, since its location is in the TNBTS area which makes it

popular with tourists. Next is the community which is starting to have involvement in terms of implementing and planning the agro-culture based edutourism sector. Here, people are starting to open strawberry fields from their own land to be jointly managed into the tourism sector, although there are a few drawbacks because the community is still lacking in knowledge regarding the management of strawberry farming. The community have learned from their failure in the past. This strawberry picking tour even had stopped due to the pandemic which reduced the income from tourists because of the closure of the Bromo tourist area.

Next is the business or private sector. If picking strawberries tour carried out by Sapikerep village is still from the local community, then the private sector has a role in the infrastructure area starting from land acquisition for hotels, inns, and cafes. In contrast to Tosari, which offers a live-in experience so that the lodging merges with the residents, in Sapikerep Village there is a permit from the central government regarding the development in the area. In this case, there is an epic collaboration from the community because they are able to see opportunities, where tourists who come to visit are offered a tour besides Bromo, that is picking strawberries.

The mass media is also one of the forums for promoting the potential of Sapikerep village through the Probolinggo route. Many people have made social media a promotional event by utilizing YouTube and also working with regional media regarding new things in Sapikerep Village. The last is from the academic side where cooperation with academics is a requirement when a village opens up to planning and exploring its potentials. Sapikerep Village has been visited by many academics from various Indonesian universities. Moreover, the people themselves are aware of the rich potential of their village, starting from the customs to the nature.

From these intertwined roles, each village began to realize its potential. The community is increasingly open to change because it turns out that picking strawberries in Sapikerep Village provides additional income for residents and many tourists come to their area. Likewise, in Tosari Village, the people and their cultural customs have potential that can be better introduced to tourists by experiencing to live in or stay a few days in Tosari Village.

The role of each of these agents turns out to be encouraging the community to be more aware of the potential of their village which, if managed properly, can be a source of income because basically their village is a tourist village due to the existence of the TNBTS area. However, there is a lot of potential that can be explored in terms of agro-culture-based edutourism in the village area, namely rich agriculture and customs which can be one of the buffers for the TNBTS area. Here, tourists can get education related to agriculture as well as culture. Farming such as picking strawberries in Sapikerep Village and picking potatoes in Tosari Village, as well as the customs of the Tengger tribe can become a special attraction for tourists to learn new things (Chamidah et al., 2020).

The results of this study indicate that each actor in the pentahelix model has been able to play a role according to its function although in its implementation there are still obstacles and challenges. The biggest obstacle and challenge found is the lack of understanding of how agro-culture-based tourism should be developed. For example, the understanding of the village government and the community and Pokdarwis are still different, not to mention the understanding built by the private sector. This, of course, requires sufficient time and effort to align understanding of the development of agro-culture-based tourism in both Sapikerep and Tosari Villages. Furthermore, the obstacle that also arises is the difference in resources owned between actors. Starting from human resources to financial resources, differences between each actor sometimes make programs constrained. This then requires institutionalization and understanding among the actors involved so that all support can be sustainable and have an impact on tourism development in the supporting village of the TNBTS area.

## **CONCLUSION**

The development of agro-culture-based tourism is currently an alternative form of tourism being developed in several villages in the TNBTS area, including Sapikerep Village, Probolinggo, and Tosari Village, Pasuruan. The presence of agro-culture-based tourism is based on the awareness that it is necessary to maintain and balance the potential that exists both on the agricultural side and on the cultural side of the Tengger's people. This tourism development will certainly be an alternative to maintaining the cultural existence of the Tengger's people and agriculture which is also one of the supporting sectors of the economy. This research shows that the presence of agro-culture-based tourism

which has been taking place so far has turned out to be a special attraction for both foreign and domestic tourists. Through this agro-culture-based tourism, tourists can be given benefits through education such as picking strawberries, and cultivating agricultural land and fields planted with vegetables such as potatoes and cauliflower. In addition, tourists can also experience the daily life of the Tengger's people with their cultural wealth, so that they can take part in religious ceremonies and cultural traditions of the Tengger's people.

The success of developing agro-culture-based tourism in Sapikerep Village, Probolinggo, and Tosari Village, Pasuruan, of course cannot be separated from multi-sectoral collaboration starting from the government, community, private sector, mass media and academics whose collaboration is called the pentahelix model. Through the Pentahelix Model, many collaborations between actors are carried out in planning and managing agro-culture-based tourism in the TNBTS area. The government, in this case acting as a regulator, clearly has great authority in determining policies and supporting the grant in the development of agro-culture-based tourism and its role here is very clear. Likewise, the private sector role is clear through their Corporate Social Responsibility scheme in providing support for the sustainability of agro-culture-based tourism in the two villages. Equally important is the role of academics who design the concept, where the development of agro-culture-based tourism is of course initiated by the contribution of thoughts and transfer of their knowledge, especially University of Brawijaya who conduct studies and community development programs in the villages in the TNBTS area. The presence of academics has had an extraordinary impact on the development of agro-culture-based tourism. Not to forget, the role of the media as an expender is also important in supporting publications in promotion and creating a tourism brand image based on agro-culture in Sapikerep Village, Probolinggo, and Tosari Village, Pasuruan. Most importantly, this collaboration is useless if there is no involvement from the community, tourism activist communities and *Pokdarwis* who act as accelerators for the development of agro-culture-based tourism in Sapikerep Village, Probolinggo, and Tosari Village, Pasuruan.

The implementation of the pentahelix model then becomes a new model or approach in the midst of the dynamics of global development that requires a lot of actor collaboration. The implementation of Pentahelix in the tourism sector and other sectors certainly requires the same will among the actors. Of course, this commitment or willingness must be built through the same understanding and support, so that cooperation in the pentahelix model can run well and be sustainable. If there is no common understanding and support, then what will happen is disharmony and conflict.

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