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Variables Influencing the Potency of Community Based Coffee Agro-Tourism in Mount Galunggung, Tasikmalaya, Indonesia

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Abstract

Tourist attraction which located in the area of Mount Galunggung, Tasikmalaya Regency offers a variety of tourist destinations. The Mount Galunggung tourism area is currently adding some tourist destinations, such as the development of coffee agro-tourism which involves the community, namely coffee farmers. However, the potential for coffee tourism still requires good planning and designing. The involvement of all stakeholders to support the development of coffee agro-tourism is expected to make coffee agro-tourism sustainable. The aims of this study were to analyze the factors which affect the development of coffee agro-tourism and to design a model for developing community-based coffee agro-tourism. The research design mixed method of census and Partial Least Square. The number of respondents was 142 that consisted of the community involved in the development of agro-tourism in Sukaratu District. The results of this study showed that the coffee plantation supported the existence of coffee agro-tourism in Galunggung tourism area. The characteristics of variable, agro-tourism resources institutional support and the potential of agro-tourism affected community-based agro-tourism. The model of community-based coffee agro-tourism development in Mount Galunggung tourism area is implemented by maximizing the input of community characteristics, agro-tourism institutional support, and agro-tourism resources, especially the variable of agro-tourism potential so it can produce output for developing community-based agro-tourism potential. This output later will affect outcomes such as the enhancement income of farmers and local communities, the enhancement of coffee productivity, absorption of local labor, socio-cultural preservation, and the established cooperation between stakeholders.

Keywords: Development model, coffee community based agrotourism, Tasikmalaya

INTRODUCTION

Indonesian tourism has great potential, as evidenced by its position which ranks fifth largest in Indonesia's export commodities after oil, natural gas, coal, and palm oil, with the exports value produced in 2015 reaching 12,225.89 million US dollars (Kemenpar, 2016). West Java has a lot of attractive tourist destinations to visit, one of the example is the East Priangan area. One of the East Priangan areas that offers a variety of tourism potentials such as mountains, waterfalls, sea, culture, and creative industries are in Tasikmalaya Regency (Bappeda Jabar, 2017). Mount Galunggung area in Tasikmalaya Regency that offers a variety of destinations become an attraction for tourists to visit this area. Tourist attractions

which located in Mount Galunggung tourism area are crater attractions, hot spring baths, waterfalls (*curug*), Galunggung coffee shops, and before the hot spring tour is being carried out an additional location for the development of coffee tourism in the tourist area of Mount Galunggung. The current coffee production is not optimal yet because the management of coffee has not been done effectively in the tourist area of Mount Galunggung. This coffee commodity is expected to enhance its value if it is integrated with the beauty of the charming Galunggung Region so it has a strong appeal as an agro-tourism. As stated by Sastrayuda (2010), there are several benefits of agro-tourism that are expanding knowledge, recreational experiences, increasing the income of local society and business relationships in agriculture. The potential of Mount Galunggung tourism has not optimal yet so it needs development for coffee tourism by involving the community in Galunggung area. Aside from coffee farmers as society who live at that area, the role of government, transportation services, culinary services, and others are needed as well. According to Subhadra (2006) the role of the government in making policies related to tourism development planning covers several things such as economic development planning to increase the growth of various types of industries related to tourism, the existence of land use planning, supporting infrastructure planning, social services planning to provide jobs, and internal security planning for tourist destinations and tourists. The role of stakeholders to support the development of coffee agro-tourism is expected to make a sustainable coffee agro-tourism in the Galunggung region. Therefore, the purposes of this study were to analyze the factors that influence the development of coffee agro-tourism and to design a model of community-based coffee agro-tourism development.

MATERIALS AND METHODS

This research was designed using mixed census methods. According to Sugiyono (2011) a combination research method (mixed methods) is a research method that combines quantitative with qualitative methods to be used together in a research activity, so that more comprehensive, valid, reliable data is obtained and objective.

The collection of respondents was carried out by means of a cencus of all stakeholders in the research were 142 local communities involved in the development of coffee agro-tourism. According to Sugiyono (2011) census is a sampling technique when all members of the population are used as samples. The number of samples taken by researchers is the people involved in Linggajati Village and Sukaratu Village, Sukaratu District, Tasikmalaya Regency as coffee farmers, goverment agencies and stakeholders in agro-tourism development coffee area. Data used in the study are primary data and secondary data. Primary data were obtained from respondents through interviews using questionnaire, while secondary data was obtained from Tourism office of West Java Province, Culture, and Tourism Office of Tasikmalaya Regency, Regional Development Planning Agencies and other related agency to support the research.

The primary data collected was then tabulated, processed and analyzed statistically descriptive. To find out the factors that affect the development of coffee agro-tourism community-based coffee agro-tourism development model is analyzed by using Partial Least Square (PLS). Structural model examination in PLS was done with the help of Smart PLS 2.0 software. According to Abdillah & Jogiyanto (2009), data analysis using the Partial Least Square (PLS) method is a multivariate statistical technique that makes comparisons between multiple dependent and independent variables.

The research location was chosen purposively, namely in Linggajati Village and Sukaratu Village, Sukaratu District, Tasikmalaya Regency with the consideration that the two villages have cultivated Robusta coffee according to the criteria for the altitude of the Robusta coffee planting area, so that it has the potential to be used as agro-tourism and is becoming a coffee-based sustainable agro-tourism development plan area by the government and local communities.

Sukaratu District, Tasikmalaya Regency has an area of 32.81 km^2 and an altitude of 524 m asl. Linggajati Village and Sukaratu Village, Sukaratu District are villages located on the slopes of Mount Galunggung and cultivate coffee. Linggajati Village has a total area of 780.559 ha and has an average elevation of 613 m asl. Sukaratu Village has an area of 500 ha with an average height of 523 m asl. (Sukaratu District, 2019). Therefore, it is suitable for the cultivation of Robusta coffee and until now it is one of the centers of Robusta coffee production in Tasikmalaya Regency. Types of coffee that are commonly grown based on altitude, namely: Arabica grown at altitude of 1000–1500 m asl. and Robusta grown at altitude of 40–900 m asl. (Puslitkoka, 2013).

RESULTS AND DISCUSSIONS

Area Profile

Sukaratu District as a location of Galunggung area has such tourist potential such as: Mount Galunggung, crater of Mount Galunggung, hot spring bath, waterfall (*curug*), coffee shop (Galunggung Shelter), as well as the addition of location of coffee agro-tourism area. The potential of coffee farms in Lingga Jati Village and Sukaratu Village, Sukaratu District as coffee producers, and the natural beauty of Mount Galunggung support the development of coffee agro-tourism. To make agro-tourism community-based, it must be considered the potential of existing agro-tourism through community characteristics, agro-tourism supporting institutions, and agro-tourism resources.

Table 1 shows an overview of the characteristics of the community, agro-tourism supporting institutional, agro-tourism resources, agro-tourism potential, community based agro-tourism. Table 1 describes the percentage of community characteristics involved in the development of coffee agro-tourism that was seen from indicators of age, education level, experience, and number of family dependents in the area of Mount Galunggung coffee agro-tourism, Tasikmalaya Regency. The study results (Table 1) show that most of the communities are in the productive age range (20-64 years). Most of the community education level is 12 years or equivalent to high school with the experience in the coffee sector is 10 years and has the largest number of dependents of 4 person.

Table 2 describes the percentage of agro-tourism supporting institutions that was seen from indicators such as goverment policy, stakeholder, community participation, community support in the area of Mount Galunggung coffee agro-tourism, Tasikmalaya Regency. Government policy supports the development of coffee agro-tourism. The local government has conducted socialization to several parties involved in the coffee agro-tourism planning program in the tourist area of Mount Galunggung through the forum group discussion. The stakeholders involved in agro-tourism development are the community, coffee farmer groups, LMDH (forest village community), LPM (community empowerment institutions), private sector, and universities. Stakeholders in this study strongly support the development of coffee agro-tourism. Community participation has the least value

Table 1. Percentage of community involvement in developing coffee agro-tourism

Indicator of characteristic community	Perceptions of the characteristic community components	Total score (n = 142)	Percentage
Age (years)	1 = 20 – 30	19	13.38
	2 = 31 – 41	26	18.31
	3 = 42 – 52	22	15.49
	4 = 53 – 64	66	46.48
	5 = > 64	9	6.34
	Total	142	100
Level of education (years)	1 = 1 – 3	12	8.45
	2 = 4 – 6	31	21.83
	3 = 7 – 9	24	16.90
	4 = 10 – 12	73	51.41
	5 = 13 – 16	2	1.41
	Total	142	100
Experience (years)	1 = 1 – 2	67	47.18
	2 = 3 – 4	44	30.99
	3 = 5 – 6	22	2.82
	4 = 7 – 8	4	15.49
	5 = 9 – 10	5	3.52
	Total	142	100
Number of family dependents (person)	1 = > 4	17	11.97
	2 = 4	89	62.68
	3 = 3	32	22.54
	4 = 2	1	0.70
	5 = < 2	3	2.11
	Total	142	100

Table 2. The description of agro-tourism supporting institutional in the coffee agro-tourism development area

Variable	Sub Variable	Average Index (%)	Category
Institutional supporting agro-tourism (X2)	X2.1 Government policy	80.10	High
	X2.2 Stakeholder	89.29	Very High
	X2.3 Participation community	65.49	Enough
	X2.4 Support community	69.13	Enough
	Institutional supporting agro-tourism	66.80	Enough

because the absence of program planning in accordance with government regulations for agro-tourism development which is an obstacle for the community due to limited public budget funds. Community support for this research was carried out by several parties such as farmer groups, youth organizations, coffee associations that support the development of coffee agro-tourism.

Table 3 describes the percentage of agro-tourism resources in the coffee agro-tourism development area based on indicators of natural conditions, attractions accessibility, facilities and infrastructure, local culture, technology in the area of Mount Galunggung coffee agro-tourism, Tasikmalaya Regency.

Climate and soil fertility as natural conditions in the agro-tourism development area are in suitable for Robusta coffee commodities that will attract visitors. Tourist objects that have the unique culture will be an attraction for visitors. The current accessibility still needs improvement in terms of road conditions to facilitate visitors to the location in looking for information about coffee agro-tourism. Facilities and infrastructure in the development of coffee agro-tourism are very low. Facilities such as electrical installation, clean water, homestays, restaurants, souvenir places, wifi services, automated teller machine are still very minimal. Toilets and places of worship are already on the camping ground. Local culture at the location of agro-tourism

Table 3. Description of agro-tourism resources in the coffee agro-tourism development area

Variable	Sub variable	Average index (%)	Category
Agro-tourism resources	X3.1 Natural conditions	80.10	Moderate
	X3.2 Attractions	94.48	Very high
	X3.3 Accessibility	54.71	Low
	X3.4 Facilities and infrastructure	56.15	Low
	X3.5 Local culture	67.50	Moderate
	X3.6 Technology	67.49	Moderate
	Agro-tourism resources	63.32	Moderate

Table 4. Description of the potential for agro-tourism in the coffee agro-tourism development area

Variable	Sub variable	Tourism Index (%)	Category
Potential of agro-tourism	Y1.1 Naturalness	59.95	Moderate
	Y1.2 Uniqueness	59.57	Moderate
	Y1.3 Workforce engagement	59.43	Moderate
	Y1.4 Optimization of land use	71.05	High
	Y1.5 Regional arrangement	63.66	Moderate
	Potential of agro-tourism	62.73	Moderate

development supports the development of coffee agro-tourism. Communities involved in developing coffee agro-tourism have applied the use of technology.

Table 4 describes the percentage of the potential of agro-tourism in the coffee agro-tourism development area that was seen from indicators of naturalness, uniqueness, work-force engagement, optimization of land use, regional arrangement, in the area of Mount Galunggung coffee agro-tourism, Tasikmalaya Regency.

Naturalness such as the natural beauty that is cool, comfort and the beauty of Mount Galunggung, waterfalls, hot springs, craters and coffee gardens are very supportive of being used as coffee agro-tourism and make it as an attraction for visitors. The existing of uniqueness such as coffee trees that have existed since the Dutch era can be used as coffee education as well as the history of coffee trees in the Mount Galunggung area. There is no official regulation by the local government regarding coffee agro-tourism so that it cannot absorb local workers in the development of coffee agro-tourism. Optimization of land use has been carried out by the community to support the development of agro-tourism. The arrangement of agro-tourism areas are very low and has not been carried out because there is no official planning according to local government regulations.

According to Potjana (2003), the main aspects of community-based tourism development consist of economy, social and environment. Community-based tourism development is aimed at increasing the income and quality of life of local communities, developing the character and behavior of local communities that support the management of socio-cultural potential and natural and environmental resources, developing services to tourists without destroying or disturbing the sustainability of local resources (Rashidpour *et al.*, 2010).

Community-based agro-tourism in the area of Mount Galunggung coffee agro-tourism development as a whole is in the high category with an average index acquisition of 71.25%. Considering from each indicator, community-based agro-tourism which has the highest score is social sub variable with an average index of 82.23%. The indicator that has the lowest score is the economy sub variable with a score of 56.94%. These results indicate that it is necessary to improve the economic aspects which are still not optimal.

The economic aspect is still low, seen from the fact that coffee productivity has not increased because there are still limited

Table 5. Description of community-based agro-tourism in the area of Mount Galunggung coffee agro-tourism development

Variable	Sub variable	Index average (%)	Category
Community based agro-tourism (Y2)	Y2.1 Economy	59.94	Low
	Y2.2 Social	82.23	High
	Y2.3 Environment	67.95	Moderate
	Community based agro-tourism	71.25	Moderate

coffee seeds for farmers and the absence of a cooperative and current assistance has not met farmer needs evenly. The low income of coffee farmers and the surrounding community is one of the factors that coffee agro-tourism needs so that later it can help increase the income of coffee farmers and the surrounding community. Social aspects include socio-cultural and social aspects that support the development of agro-tourism with stakeholders, namely the community, coffee farmer groups, LMDH (forest village community institutions), LPM (community empowerment institutions), private parties, and universities that support agro-tourism development. There are currently supporting coffee agro-tourism because the community always protects the environment.

Factors Affecting Agro-Tourism

Testing of the item's reliability (indicator validity) can be seen from the value of the loading factor (standardized loading). From Figure 1 it can be seen that all loads are worth more than 0.5 so there is no need to set aside. Thus, each indicators are valid to explain each latent, namely community, agro-tourism supporting institutions, agro-tourism resources, agro-tourism potential, and community-based agro-tourism. Agro-tourism power in addition showing the item validity of each indicator, the loading factor also shows the contribution of each indicator to the factor.

The path coefficient provides an overview of the results, including standard errors, bootstrap mean, t and p values. The results of the path coefficient will be slightly different because bootstrapping is a random process. Significance of the influence between the constructs can be seen from the path coefficient. The sign in the path coefficient must be in accordance with the hypothesized theory, to assess the significance of the path coefficient it can be seen from the t test (critical ratio) obtained from the bootstrapping process (resampling method). The following data are the results of the t test on the inner and outer models.

From figure 2 the path of coefficient value for community characteristics (X1) are based on t statistic of 12.897 and agro-tourism supporting institutions (X2) based on t statistic of 4.644 and agro-tourism resources (X3) according to t statistic of 8.897 so that it has a significant value and has an influence on the potential of agro-tourism (Y1). The t statistical value of the potential for agro-tourism (Y1) is 8.721 which has a significant effect on community-based agro-tourism (Y2). Therefore, it can be concluded that the characteristics of the community have a greater influence on the potential of agro-tourism. The t test is the result of bootstrap calculation. The t test results in the image above will then be compared with the t table value.

The path of coefficient results is presented in Table 6. The path of coefficient value for community characteristics (X1) is based on the t statistical value of 12.879, where the value is greater than the t-table 1.977, which means that the community characteristics variable (X1) has a significant effect on the potential of agro-tourism (Y1). The path coefficient value of agro-tourism supporting institutions (X2) is based on a statistical

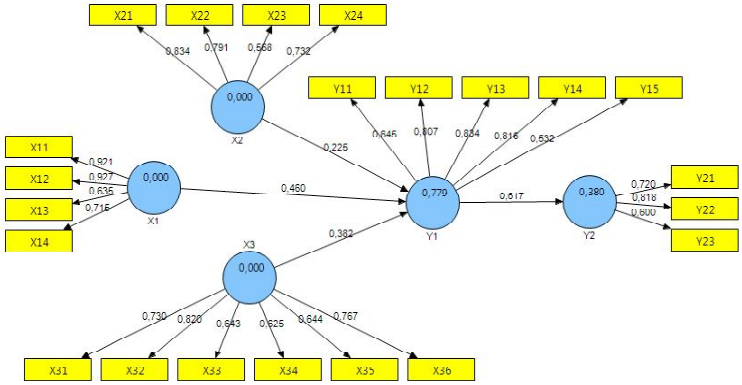

Figure 1. Standardized loading factor values in inner and outer model

Notes :

X1	= Community characteristic	X3.4	= Facilities and infrastructure
X1.1	= Age	X3.5	= Local culture
X1.2	= Level of education	X3.6	= Technology
X1.3	= Experience	Y1	= Agro-tourism potential
X1.4	= Number of family dependents	Y1.1	= Naturalness
X2	= Institutional supporting agro-tourism	Y1.2	= Uniqueness
X2.1	= Goverment policy	Y1.3	= Workforce involvement
X2.2	= Stakeholder	Y1.4	= Optimization of land use
X2.3	= Participation community	Y1.5	= Regional arrangement
X2.4	= Support community	Y2	= Community based agro-tourism
X3	= Agro-tourism resources	Y2.1	= Economy
X3.1	= Natural conditions	Y2.2	= Social
X3.2	= Attractions	Y2.3	= Environment
X3.3	= Accessibility		

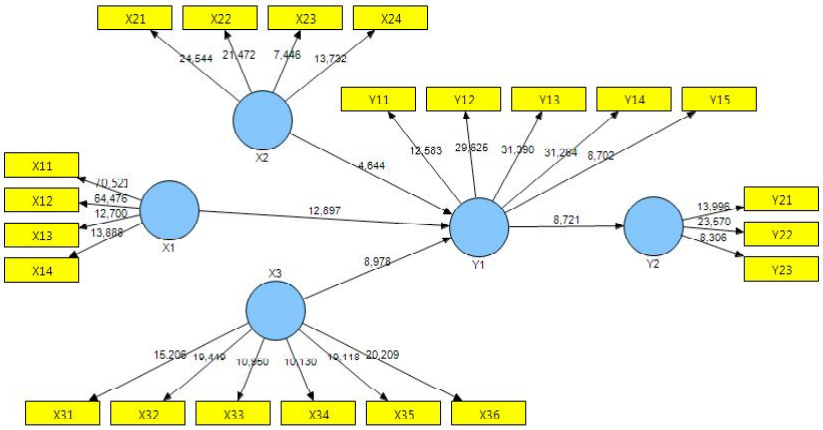

Figure 2. T-value inner and outer model (notes as in Figure 1)

t value of 4.644 where this value is greater than t-table 1.977, which means that supporting institutional variable of agro-tourism (X2) have a significant effect on the potential of agro-tourism (Y1). The path of coefficient value of agro-tourism resources (X3) is based on a statistical t value of 8.978 where this value is greater than the t-table 1.977, which means that agro-tourism resources variable (X3) has a significant effect on the potential of agro-tourism (Y1).

The variable of agro-tourism potential (Y1) has a path of coefficient value based on the t-statistical value of 8.772 where this value is greater than t-table 1.977, which means that the agro-tourism potential variable (Y1) has a significant effect on community-based agro-tourism (Y1). It can be concluded that all of the existing variables ranging from community characteristics (X1), agro-tourism supporting institutions (X2) and agro-tourism resources (X3) have a significant influence on the potential of agro-tourism (Y1). The potential of agro-tourism also has a significant influence on community-based agro-tourism (Y2).

To find out the factors that affect community-based agro-tourism it can be seen after testing assumptions that show the data is valid and reliable, as well as from it goodness of fit (GoF). Yamin & Heri (2011) value calculation result shows which that this design is great (has a high ability) in explaining empirical data in the study to validate the overall model. Yamin & Heri (2011). This GoF value is obtained from the average communalities index multiplied by the R^2 value of the model. Here are the results of calculating the goodness of fit model.

Based on Table 2, the average result of communalities is 0.552. This value is multiplied by R^2 and rooted. The calculation results show that the GoF value of 0.566 is more than 0.36, which means that it is categorized as a large GoF, meaning that the model is very good (has a high ability) in explaining an empirical data.

Potential of Agro Tourism Development

Based on the analysis results (Table 6) it is known that community characteristics variable (X1), agro-tourism institutional support (X2), and agro-tourism resources (X3) have a significant effect on the development of agro-tourism potential (Y1) and has a t-statistical value greater than t table (1.977). Thus it can be concluded that there is a significant influence on community characteristics (X1), institutional support for agro-tourism (X2), and agro-tourism resources (X3) on the potential of agro-tourism.

Table 6. Direct effect path coefficient results

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	Standard error (STERR)	T statistics (|O/STERR|)	T table
X1 -> Y1	0.460	0.450	0.036	0.036	12.879	1.977
X2 -> Y1	0.225	0.230	0.048	0.048	4.644	1.977
X3 -> Y1	0.382	0.388	0.043	0.043	8.978	1.977
Y1 -> Y2	0.617	0.605	0.071	0.071	8.722	1.977

Table 7. Average communalities index

	AVE	R Square
X1	0.655	-
X2	0.545	-
X3	0.502	-
Y1	0.542	0.779
Y2	0.516	0.380
Average	0.552	0.580
GoF	0.566	-

Community characteristics affect the potential of agro-tourism. The characteristics of the community through the age that most of them are in the productive age have physical potential that can be utilized to increase the potential of agro-tourism. According to Tewu (2015), the physical potential of these human resources can be optimally utilized to achieve organizational interests and goals. Human resources in the surrounding area can later manage coffee agro-tourism. Increasing human resources through education and training programs in the field of coffee and agro-tourism is needed. The existence of this program will later help the community to be able to take advantage of various job opportunities and do business in coffee agro-tourism. Another benefit in the long term is that the level of welfare of the surrounding community will be better.

According to Budi *et al*. (2009) institutions have a major role in reducing disorder by forming a stable structure for human interactions involved in it. Agro-tourism supporting institutions affect the potential of agro-tourism because through government policies and stakeholders can regulate relationships and facilitate cooperation between individuals to achieve the same goal, namely community-based coffee agro-tourism.

Agro-tourism resources have an effect on the potential of agro-tourism because through the application of technology that can be applied to the current community, it can develop coffee agro-tourism. The technology used today is information technology so that it can find out about coffee cultivation to coffee processing. The community always shares experiences in the field of coffee and training in cultivation technology to coffee processing and how to implement technology. The use of communication technology via the internet or virtually has been implemented by the community, utilizing existing technology to carry out marketing or promotion of agro-tourism and coffee products online through social media such as websites and instagram.

Based on the explanation above, the variable characteristics of the community have a greater influence on the potential of agro-tourism compared to the variables of agro-tourism resources and agro-tourism supporting institutions. The characteristics of the community in question are that through optimal human resources of the surrounding community, it can later increase the development of agro-tourism. Optimal resources can make structural improvements, organizational performance and strategy to maintain sustainability in managing coffee agro-tourism.

Potential Effects on Community-Based Agro-tourism

Based on the analysis results (Table 6) it is known that t statistical value of the potential of agro-tourism to community-based agro-tourism is 8.722, greater than t table (1.977) indicating a significant effect on community-based agro-tourism. The magnitude of the potential influence of agro-tourism on community-based agro-tourism is 0.617. The positive path coefficient indicates that the better the potential for agro-tourism, the better the community-based agro-tourism. The potential of agro-tourism has an effect on community-based agro-tourism because through the existing agro-tourism potential it is quite supportive but must be improved or still needs development to achieve the goal, namely community-based coffee agro-tourism. In line with Septio & Karyani (2020) visitors who come to agro-tourism not only enjoy the nature of agro-tourism, but can also try outbound arenas and enjoy culinary delights that involve cultural elements and local wisdom in terms of buildings and food. This agro-tourism development needs to be equipped with other facilities, such as the availability of vehicle parking

spaces, playing facilities such as outbound and photo spots as well as providing culinary delights that are characteristic of coffee agro-tourism.

Another research conducted by Septio *et al.* (2019) showed that community-based agro-tourism does not want to open investment to outsiders because if it accepts outside investors it will kill the community's economy and in the end the community will only become spectators. Establishing community-based agro-tourism areas is one way to help the community's economy through its involvement in management.

Community-based coffee agro-tourism is created using sustainability theory which includes social, economic and environmental aspects. The social aspect through stakeholders who support the development of agro-tourism and there is a culture that is characteristic of attracting visitors. The economic aspect through the development of coffee agro-tourism increases the income of farmers and the surrounding community. On the other hand, with the existence of coffee agro-tourism, it can introduce coffee which is Galunggung's characteristic to visitors and can absorb local labor. The current environmental aspects are sufficient to support the development of coffee agro-tourism, because the local people are sufficient to protect the environment.

Based on the results of PLS analysis the design of the agro-tourism development model was made as can be seen in Figure 4. The implementative model of community-based agro-tourism is compiled based on input, process, output, outcome and impact. The entered input is the characteristics of the community, the supporting institutions for agro-tourism and the potential for agro-tourism which has a significant effect on community-based coffee agro-tourism.

In this model, community characteristics (age, formal education, number of dependents, length of experience in the field of coffee) support agro-tourism institutions (attractiveness through government policies, stakeholder

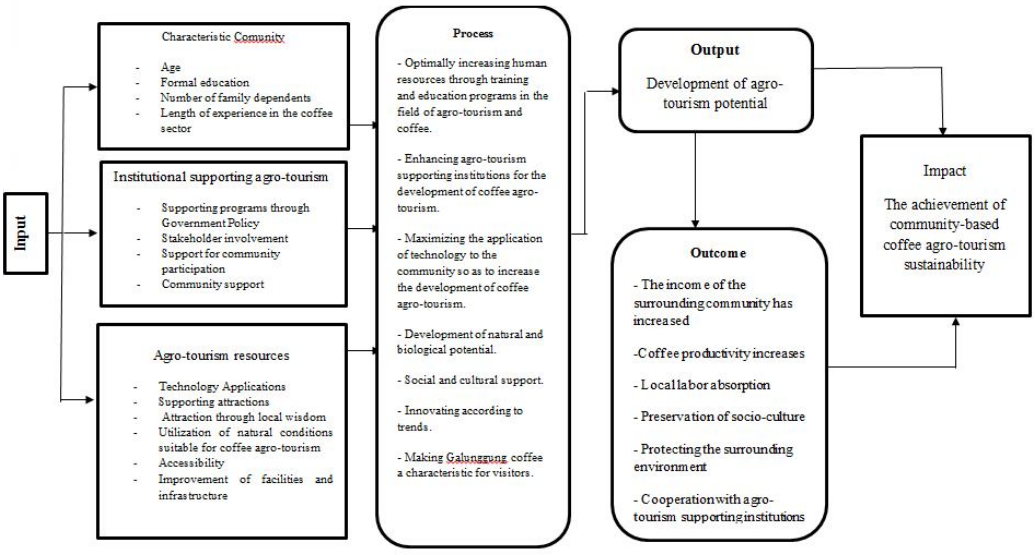

Figure 4. Implementing model of community-based coffee agrotourism

involvement, community support, support through community participation) and agro-tourism resources (application technology, supporting attractions, attractiveness through local wisdom, utilization of natural conditions suitable for coffee agro-tourism, accessibility, improvement of facilities and infrastructure) are categorized as inputs. Furthermore, after determining the input, a process is implemented to carry out the input indicators including:

a) Optimally increasing human resources through training and education programs in the field of agro-tourism and coffee. This increase in human resources is carried out so that the community and also coffee farmers have the skills and abilities to carry out maximum coffee farming activities and also make good use of agro-tourism opportunities

b) Improvement of coffee agro-tourism supporting institutions through government policies, namely the program to increase the development of coffee agro-tourism, especially local regulations. Conduct a scheduled focus group discussion to discuss and monitor the extent of the current shortage of agro-tourism through stakeholders such as communities, farmer groups, LMDH (forest community village institutions), LPM (community empowerment institutions), Universities with government agencies such as the village government, district government, Bappeda, Tourism Office, Agricultural Service, Extension Institutions, Perhutani. By doing so, it is hoped that it will increase community participation and community support to develop coffee agro-tourism.

c) Maximizing the application of technology to the community so as to increase the development of coffee agro-tourism. The incomplete availability of coffee processing machine technology can increase the development of coffee agro-tourism.

d) Development of natural and biological potential through sustainable use of natural resources and ecosystems in accordance with environmental conditions. The environmental conditions in question are the potential for climatic conditions in accordance with the growth of coffee commodities and the specific types of existing plants such as the presence of coffee trees that have existed since the Dutch era. If this potential is developed sustainably, it will be a different attraction from other tours.

e) Innovating according to the trend is done in order to attract visitors and not feel bored but make them want to keep coming. For example, making something that is attractive to visitors, such as making photo spots, playing games, making coffee education by explaining about coffee plants to processing and later visitors can enjoy the coffee. Visitors can also enjoy coffee served with beautiful natural scenery.

f) Socio-cultural support through existing cultures such as dances, *pencak silat, marawis*. Besides that, the friendliness of the existing community create comfortable condition for visitors.

g) Making Galunggung coffee a characteristic for visitors by means of enjoying coffee on the spot or used as souvenirs with packaged coffee.

These inputs and processes affect the resulting outputs and outcomes. Output is a direct result that can be felt from a process. The output generated from the process that has been carried out is the development of agro-tourism potential. This output will be felt immediately if the existing inputs and processes are executed properly. Furthermore, the outcome is the long-term effect of the process. Based on the model, the resulting outcome is that the income of the surrounding community increases, coffee productivity

increases, the absorption of local labor, socio-cultural preservation, cooperation between agro-tourism supporting institutions in synergy.

In reality, community-based agro-tourism cannot be fully successful without the involvement of the government. This is possible because in some ways the community still has limitations, such as education level, capital, and awareness of the importance of the environment (Kusumastanto *et al*., 1998).

The development of agro-tourism by highlighting local culture in utilizing land, farmers' income can increase along with efforts to conserve land resources, and maintain local culture and technology (indigenous knowledge) which are generally in accordance with their natural environmental conditions. According to Sastrayuda (2010), there are several benefits of agro-tourism, namely expanding knowledge, recreational experience, increasing local people's income and business relations in agriculture.

The end result of the model will lead to an impact which is a measure of the level of economic, social and environmental influence that is assessed by the performance achievement of each indicator in an activity. The impact of the expected implemented model is the achievement of community-based coffee agro-tourism in the Gunung Galunggung Tourism Area, Tasikmalaya Regency.

In line with the research by Budiarti *et al*. (2013), the follow-up and involvement of related parties are needed to carry out the stages of community-based agro-tourism development, such as (1) guidance and enhancement productions and quality program of agricultural products from the agriculture office, (2) training and assistance about tourism and its management, and promotion of tourism programs from Culture and Tourism Office, (3) cultivation training of agricultural products, mentoring and marketing from Industry and Trade Office, (4) cooperation with the tourism industry and/or travel agency for tourists visit, and (5) collaboration with universities or colleges and/or research institutions for technology information and research results that can be applied in community.

CONCLUSIONS

Community characteristics, agro-tourism institutional support and agro-tourism resources have a significant effect on the potential of agro-tourism. Characteristics of the community that affect the potential of agro-tourism are age, level of education, number of family dependents and experience in the field of coffee. Agro-tourism supporting institutions that affect the potential of agro-tourism are government policies, stakeholders, community participation, community support. Agro-tourism resources that affect potential are natural conditions, attractions, accessibility, facilities and infrastructure, local wisdom, technology. The potential of agro-tourism affects community-based coffee agro-tourism suggesting that the existing agro-tourism potential supports the existence of community-based coffee agro-tourism, by optimizing human resources through the community, improving agro-tourism supporting institutions, and developing agro-tourism resources. To maximize input, the process must be supported by optimally increasing human resources through training and education programs in the field of agro-tourism and coffee, enhancing agro-tourism supporting institutions, maximizing the application of technology to the community, developing natural and biological potential, innovating according to trends, making Galunggung coffee a characteristic for visitors, resulting in the output of developing agro-tourism potential. This output will have an effect on the outcome of increasing community income, increased coffee productivity, absorption of local labor, socio-cultural preservation, cooperation among agro-tourism supporting institutions.

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