

## COFFEE VALUE SYMBIOSIS TOWARD A MOUNTAIN GEOGRAPHICAL COMMUNITY-BASED TOURISM IN THAILAND

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**Abstract:** Coffee was used as a symbiosis key value attracting tourists in community-based tourism at Pang Khon village, Chiang Rai, Thailand. The mixed method was applied. The data collected by administering in-depth interview, focus group, participatory rural appraisal, and participatory observation amongst the public, private and community for qualitative data collection. Whereas, the questionnaires were employed for quantitative data collection. The structural equation modelling was applied to compliment and foster the qualitative data. The sample group composes of public entity including local government, Tourism Authority of Thailand Chiang Rai officers, officers from ministry of tourism and sport of Thailand [MOT's officers], Pang Khon villagers, restaurant and private travel agencies, hoteliers, local transport providers, and tourists. The economic, education, emotion, research, and experience values were discovered. To assess coffee symbiosis value to community-based tourism. The mixed method research was employed by using in-depth interview, focus group, participatory rural appraisal, participatory for qualitative approach. The quantitative approach was conducted by using structural equation modelling (SEM). The results found coffee create economic, education, emotion, research, and experience values to community-based tourism. The author would recommend the policy makers highlighting on innovation of new products and services. The promotion should emphasize on the source of coffee plantation in community. That is taste of fresh coffee from its origin. However, the fair distribution of revenue to local residents shall be well-planned for dynamic cooperation and improvement of community economic.

**Key words:** symbiosis, coffee value, tourism, community-based tourism, Mountain Geographical Area

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### INTRODUCTION

Tourism industry, in Thailand, enhances the country's economic growth. It generates more than 2 million jobs in 2016, where 80 percent of revenue came from international travelers. Because of its geographical, Thailand, has splendid natural touristic sites, beaches, and inexpensive tasty recipes. The hospitality of Thais' friendliness is one of the key attractions to travelers (Hipsher, 2021). As tourism is important for its socio-economic, Thailand was aware of this sector and has boosted its tourism nationwide. Therefore, the government has established the tourism policies and put in place by the Ministry of Tourism and Sport- MOT (2017). The policy aims to disseminate economic growth to local community for sustainability. Thence, local residents are welcoming to join in tourism planning and representing their plentiful cultures, resources, and originality of tradition and norms. The MOT highlighted the tourism that focuses on local agro-cultural methods and allowing tourists to participate in agro-culture activities, learning the way of local life, culture, traditions, and the usage of available community resources. This kind of tourism is enhancing local community to take advantages from its resources and their way of living to generate income for families and communities.

It is called Agro-tourism where local wisdom will be used as a tool for conservation for sustainable tourism. Despite that, the five standards of agro-tourism were set by MOT including; physical and biological values, knowledge, innovation and wisdom values, agro-cultural attractions management, readiness of agro-cultural sites, the attraction of agro-cultural tourism sites' products and services. These standards were concluded in Table 1 below. It is worthy noted that the agro-tourism standards, activities and purposes were closely link to community-based tourism (CBT). That is the participation of community in tourism planning and developing sustainably (Oka et al., 2021).

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Whilst, the agro-tourism is more intensively stressed on variety of agricultural activities, agro-culture products and services. While, the Designated Areas for Sustainable Tourism Administration-DASTA of Thailand (2021) defined community-based tourism (CBT) as the alternative tourism managed by the community innovatively and standardized contributing to learning, leading to environmental, local cultural sustainability. And the CBT should improve local community good quality of life by using tourism as a tool. The standard criteria are including; represent the community ownership, local residents' participation in planning and decision making, enhancing the community pride, improving a better quality of life, reserve environmental sustainability, preserve local cultural, cultural diversity knowledge management, respecting different cultures and human dignity, equitably returns to local people, and distributing income to public interest. The Thailand Community Based Tourism Institute- CBT-I (2013) specified five primary elements of CBT with sustainable management, improvement of life quality and local economy, promote culture, protect environment, and safety and service. In whatever way, Sitikarn and Kankaew (2021) added that sustainable tourism shall relate to the conservation and preservation of natural resources, precisely the originality of local cultural and social way of life. Tourism should also be used as a tool for local residents' poverty mitigation.

Table 1. Five Standards of Thailand's Agro-Tourism (Complied by authors)

Standard Issues	Criteria
Physical and biological values	The beauty of sites, atmosphere, uniqueness, organic and variety of agro-culture products, waste disposal management system, eco-tourism activities and sustainable agro-culture system management.
Knowledge, innovation and wisdom values	Newness, rare and values of wisdom in agro-culture which reflect local community life span, technological implementation for value added (Kankaew et al., 2021), agro-culture for living, producing selling local products, and networking with stakeholders for knowledge management.
Agro-culture attractions management	Management structure on budget, marketing, and products' planning systematically. Readiness of basic infrastructure e.g., road, electricity, and water supply. A conservation plan of agro-culture sites.
Readiness of agro-culture sites	The accessibility to the sites comfortably and safety, signages, toilettes, walk way for the excursion, rest area, and car parking. The readiness of human resources taking care of tourists, local guides and villages' sages, accommodation and souvenir shops.
The attraction of agro-culture tourism sites' products and services	The variety of activities provided by community. The opportunity of tourists in participating, learning, acquiring community wisdom, cultures and life span.

Additionally, the five standards of the agro-tourism mentioned earlier and CBT standards could be conceptualized into 7As namely; (1) accessibility where transportations are available, (2) activities such as planting and producing local products, (3) accommodation, (4) attraction, (5) ancillary services, (6) amenity, and (7) administration of safety and facilitation to travelers by all stakeholders. Since, these factors are significant to visitors' satisfaction and lead to destination loyalty (Rahmiati et al., 2021). According to the national agro-tourism and CBT standards, researchers found Chiang Rai province is best fit because of its geographical location in the most northern part of Thailand. With its mountainous geographical, Chiang Rai is well-known of its nice and suitable climate condition for coffee plantation. Therefore, Chiang Rai is recognized as the country's biggest Arabica coffee planting area and it profitably yields to the coffee farmers, especially amongst the ethnic communities (Prachachat, 2017). The abundant small mountainous areas or hills were called "Doi" in Thai language. There are plenty Dois in Chiang Rai that cultivate coffee trees. For instance, Doi Chang, Doi Wawee, Doi Phamee, and Doi Pang khon. These hills or Dois are commonly known among Thai coffee lovers.

Back to the history of coffee planting in Chiang Rai, the coffee planting was initiated from the King Rama 9. He has set the project up aiming to eliminate the problem of growing and producing opiates of the hill tribes. The opiate plantation is popular among hill tribes because the plant generates grand amount of revenue. Since, the opiates were used to produce addictive substances. The tribes have growing for living, because hill tribe people were unemployed, poor, lack of knowledge, and could not speak and write Thai's official language. For these reasons, the coffee planting was promoted and replaced the opiates as economic plants. As a matter of fact, Chiang Rai, there exists more than 17 tribes, for example; Tai Leu, Tai Won, Tai Yha, Tai Yong, Tai Yai, Lau, Lee Su, Mong, Lahu, Ahkha. While, each tribe has its own language, norm, values, and cultures. Outlooking, these diversities of tribes, cultures, norms, tradition of living, and natural resources in the hills should be reserved, and promoted by symbiosis with tourism to flourish the socio-economic development of hill tribes (Chiang Rai Provincial Cultural Office, 2016). Thus, the coffee is selected as symbiosis mechanism with tourism industry in Chiang Rai. Yet, it is well-recognized of Arabica in the country. And, further reason is many people consume coffee as a beverage in daily life for ages. That is its bitter, dark, aromatic refresh and stimulate human physiology. Coffee is considered most popular drink as one-third of people around the world consume. Whereas, the arabica is the largest number of coffee production in the world. Making coffee, the coffee bean was extracted, roasted, crushed, and brew by hot water in producing the drink (George et al., 2008). Supporting from Pourshahidi et al. (2016) disclosed that coffee is benefit for health rather than risk in a moderate consumption on adult. In the meantime, Coso et al. (2020) stated the caffeine consumption from coffee intake improve people performance. Moreover, human can also benefit the antioxidant, anticarcinogenic, and antimutagenic effect from the moderate coffee intake (George et al., 2008). However, consuming coffee by own self-made alike local way of hill tribe's life is extraordinary experiences to tourists. In the meantime, the other parts of coffee plants can be consumed as food ingredients or combination the food taste. That is less people know and still undercover.

Hence, the symbiosis of using coffee as a tool in tourism has captivate us to conduct this study. The symbiosis theory was the concept derived from ecological. It was applied in social science on the clustering of industrial (Xu et al., 2017).

The theory has three elements including symbiotic unit, symbiotic model, and symbiotic environment. These three elements were interactive and cooperative to manifest the dynamic of change and the law of symbiotic mechanism. The symbiotic unit acted as the principal transmission of information and energy. While, the symbiotic model takes part in coping with the complexity relation of the unit. On the one hand, the symbiotic environment is important external condition to the system (Zhiwei, 2013; Dan, 2016). This research can be claimed the first study in coffee symbiosis with tourism in Thailand. In contrast to other part of the world, there were various study conducted coffee symbiosis with tourism. For instance, Hasyim et al. (2020) promulgated that coffee attract the interest and desire of tourist to visit Toraja. David et al. (2021) underlined the rise of coffee tourism in Budapest derive from American coffee chains. The scholars defined coffee tourism as a tourism product that align the new cafes and coffee culture of Budapest in 19<sup>th</sup> century. Leewellyn and Palupi (2020) suggested the policy makers to symbiosis local coffee Sukadana in Indonesia with the development of community touristic sites. Whereas, Lyon (2013) found the coffee tourism could reinforce the organization’s cooperative on structural managing, new opportunities for training and career. However, the common shared belief of community and all stakeholders have to be symbiosis closely representing community norms and history, and more importantly the benefit from tourism has to delegate uniformly to local residents. Noting to the above mentioned, the symbiosis theory was described the incorporation, collaboration and integration among tourism stakeholders for the new wave of changes. Thus, the myriad benefits of interdependence leading to win-win solutions (Dan, 2016). As prior stated, the coffee planting was replaced opiate cultivation and shall be used as symbiosis key for CBT in Chiang Rai’s Mountain geographical area. That could enrich local’s people life in term of social and economic development. Since, Chiang Rai is the biggest Arabica coffee planting area in Thailand, and the mountainous geographical areas are riches in cultures, values, and norms from different tribes. Therefore, this study aims to assess the symbiosis value of coffee in CBT in Pang Khon village, located 1,400-1,800 meters above the sea level.

**MATERIALS AND METHODS**

The mixed method was employed in this study. The qualitative data collected by administering in-depth interview, focus group, participatory rural appraisal, and participatory observation amongst the public, private and community. The coding and retrieval were used to sort, mark, and categorized data (Dawson, 2020). The value of coffee symbiosis to CBT was coded. Then, the content and thematic analysis were applied to analyze and explain the data. on the other hand, the questionnaires were used to collect data for quantitative approach assessing the symbiosis coffee value, as well as the 7As attract tourist visiting Pang Khon village. The structural equation modelling as inferential statistic was used. The fit indices were measured as shown in Table 2. Pang Khon village was selected in this study, because the village consisted of four ethnics group namely; Eew Mean, La hu, Ahkha, and Chinese Yunan.

There are around 600 population in the village. Pang Khon located 1,400-1,800 meters above the sea level, surrounded by the hills, and average temperature is 15-20 degree Celsius all year round as shown in Figure 1. The area is suitable for coffee, fruits and vegetables cultivation. It is the origin source of Korn River in Chiang Rai. The sample group composes of public entity including local government, Tourism Authority of Thailand Chiang Rai officers, MOT’s officers, Pang Khon villagers, restaurant and private travel agencies, hoteliers, local transport providers, and tourists. Researcher believes that the study of Pang Khon village could enhance utmost benefit to the community and country as a whole specifically for other places that are still uncappeded.

It could deliver the reflection in terms of socio-cultural, environmental, and economic dimensions. Especially, creating value of tourism activities and economic to the ethnic groups objectively. This is about to stimulate job creation, income generation, conservation of natural resources and environment. As well as, to preserve and restore ethnic identity, cultural identity, and communities’ life span sustainably. Researcher applied public mechanism to drive CBT symbiosis with coffee as a key representing community lifestyle in accordance with MOT’s standard framework.

Table 2. Goodness of fit analysis of confirmatory factor analysis

	Acceptance level	Goodness of fit index		Acceptance level	Goodness of fit index
RMSEA	< 0.05 -0.08	0.25	AGFI	> 0.8 ~0.9	.981
RFI	> 0.9	.992	CFI	> 0.9	.970
p	>0.05	.165			
CMIN /d.f	< 2	1.500			
GFI	> 0.8 ~0.9	.969			



Figure 1. Pang Khon Village and Ethnic Group Clothing Styles (Source: Authors, Pang Khon village, March 2020)

**RESULTS AND DISCUSSION**

Based on the agri-tourism and CBT standards that have been conceptualized into 7As; accessibility, activities,

accommodation, attraction, amenity, administration, and ancillary services. Pang Khon village was assessed in accordance with the standards. Firstly, the attraction of the village are natural resources, the fertile ecosystem resulting to cool temperature whole year round, waterfall, having excursion tract, and a blossom pink flowers during January to February. Regarding cultural attraction, the village does exist diverse culture from 4 tribes. For activities, Pang Khon village provides variety of activities for tourists. For instance; excursion to waterfall, coffee bean harvesting, learning to produce coffee, local dance as shown in Figure 2a-2c. The accessibility to the village is concreted road with signage, but need to drive carefully because of its location in the mountain. On the way to the village, there are other touristic sites to visit as well. In term of amenity, there is no public transport linking the village with downtown.



Figure 2a. Trekking to waterfall and to worship Buddha Footprint (Source: Authors, Pang Khon village)

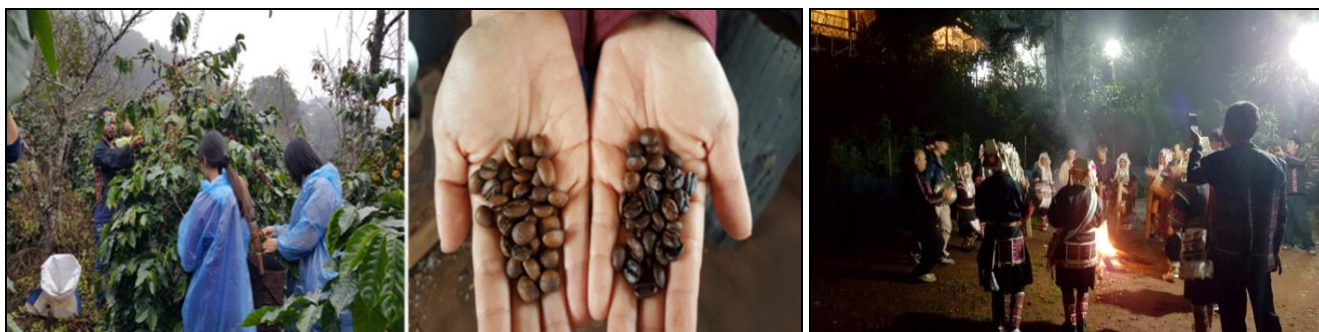


Figure 2b. Coffee bean harvesting and Dark and medium roasted coffee bean

Figure 2c. Bõchõng Tu' Tribe dancing activity'

While, other basic facilities such as internet, WIFI, electricity are available. The accommodation is offered by local residents as homestay including breakfast. Tourist can experience the way of tribes' living. The homestay is envired by trees, and coffee trees as shown in Figure 3.



Figure 3. Homestay atmosphere and room at Pang Khon Village (Source: Authors, Pang Khon village)

The ancillary services are existed in the hospitality of villagers and embedded in their unique food provided, tea from coffee flowers, deep fry pork in coffee leaves as shown in Figure 4a – 4b etc., and lastly, the CBT administration was handled by 13 people in Pang Khon villagers gathering together. The team is led by head of village and local

government agencies. The administration is still at initial state, hence the training and development on tourism management, destination management, and environment protection plan are required.

The 7As of Pang Khon village have been addressed according to the MOT standards. Meanwhile, the quantitative analysis was investigated to concrete the inductive results. There were 600 respondents composed of 200 tourists accounted 33 percent, local residents 150 persons or 25 percent, public tourist service officers 50 persons and equal number of government officers 50 persons. That accounted in 8.33 percent respectively.



Figure 4a. Tea from coffee flowers



Figure 4b. Local Food from Coffee Leaves  
(Source: Authors, Pang Khon village)

There were, also, private organization such as restaurants, souvenir shops, given us data accounted for 25 percent or 150 persons. The respondent information has been concluded in Figure 5. The structural equation modelling has been performed to validate the survey which of 7As affect the tourists visiting Pang Khon village. The result was demonstrated in Table 3.

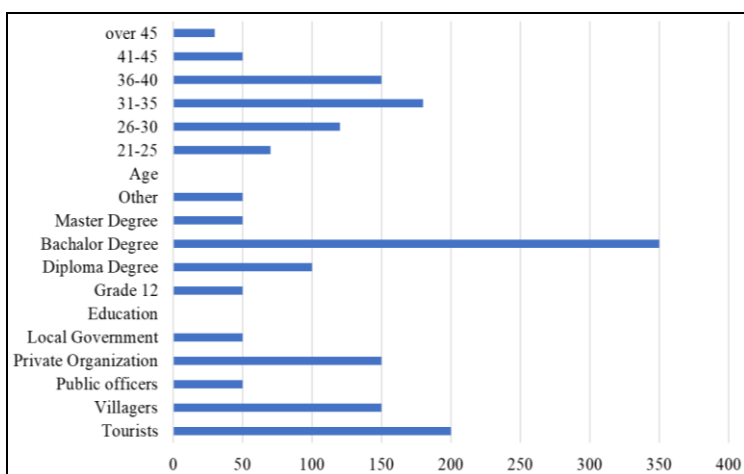


Figure 5. The respondents' demographic

Table 3. Result of 7As confirmatory factor analysis (\*\*\*) < 0.001

7As	Standardized estimate	Nonstandardized estimate	S.E.	C.R.	SMC
Activity	.740	4.13	.816	3.98***	.543
Accessibility	.553	2.96	.750	3.86***	.310
Attraction	.756	4.23	.836	4.21***	.651
Amenity	.328	1.42	.425	3.40***	.108
Accommodation	.542	3.14	.817	3.84***	.302
Ancillary	.230	1.000	.339	3.25***	.153
Administration	.725	3.78	.951	3.98***	.530

From Table 3, the four most interesting findings are attraction, activity, administration, and accessibility. Pang Khon village, interestingly, is the attractive destination in itself due to the location and the weather. It has  $\beta = 0.76$ , C.R. = 4.21 with  $p$  value less than 0.001, and the statistic explanation power is over 60 percent. The activity has  $\beta = 0.74$ , C.R. = 3.98 with  $p$  value less than 0.001. The activity has a significant impact on tourist by its statistic explanation power at 54.3 percent. The second obvious finding is the administration on destination management and safety. It has  $\beta = 0.73$ , C.R. = 3.98 with  $p$  value less than 0.001, and the statistic explanation power is 53 percent. Another important to notice is the accessibility which exists  $\beta = 0.55$ , C.R. = 3.86 with  $p$  value less than 0.001, and the explanation value is 31 percent. Despite that, the statistic explanation of accommodation is worthy noted at 30 percent. That is closely to the accessibility. There are, further, explanation that the tourists like the activities provided by community. However, the good destination management and safety must be considered. That is including the tourism logistic and facilities to connect and serve tourists needs for the overnight stay. These are, actually, referring to the accessibility and accommodation. At the same time, the result seems contradictory of coffee symbiosis in terms of ancillary services.

Since, the ancillary service has rather low impact on tourist with only 15 percent of statistic explanation power. As prior explanation, the ancillary service is the usage of some part of coffee plants cooking. A possible interpretation of this might be the taste of local food is not pleasing. Thence, the food ingredients and spices should be adjusted. Yet, the

value of coffee symbiosis to CBT as a key was extracted from the in-depth interview and focus group. Since, the village was further promoted more than general mountainous geographical and riches of natural resources, local cultures, but the appreciation of coffee consumption in the local way of life has added economic values. The numerous of travelers generate income to community, which in turn supporting education of local residents. On top of that, visitors and local people have exchanged their belief, know-how, and *modus vivendi*. This dialogue learning was categorized as education and experiences gained rather than the activities participation with community. In consideration of emotion, it is mentally happiness retrieved in all stages of travelling cognizance. Correspondingly, the values retrieved from coding incorporate with economic, emotion, education, and experience. As the interview statements from villagers said;

“I am quite happy when the tourists visited our village. I enjoyed talking to them, especially foreigners. So that I can learn how to greet and count numbers in English.”

“When the tourists come, we have money from selling coffee seeds to café and restaurant. So, I can support my children’s education.”

Besides the villagers’ statements, the tourists revealed the value added from coffee and its leaves consumption, the activities in picking and producing coffee as follow;

“I have a wonderful experience to live with this community. The people are nice and friendly.”

“It is my first time ever eating food that use coffee leaves as ingredients. It tastes delicious.”

“I learned how to pick the coffee beans, degree and time of roast bean resulting to different taste of coffee.”

However, the problem of community-based coffee tourism (CBCT) management is the lack of personnel regarding quantitative and qualitative. As mentioned earlier, there are only 13 persons managing the CBCT. In addition, these people also lack of knowledge and expertise in managing tourism. There is no local guide who can communicate in English. The financial aid from government is required to maintain the infrastructure, such as road, lighting system, waste and water management. Over and above, the tourism policy is paradox between local and central government. Considering to the income distribution, it should be partaken equally to all stakeholders. On the subject of income distribution, the joint planning of all stakeholders must be planned. This is to prevent the conflicts of interest. And it would result to the unity and cooperation of the CBCT sustainably. Consequently, another value of coffee symbiosis to CBT has been added that is the research. Then, the SEM was performed to assess the coffee symbiosis value accompaniment the qualitative data.

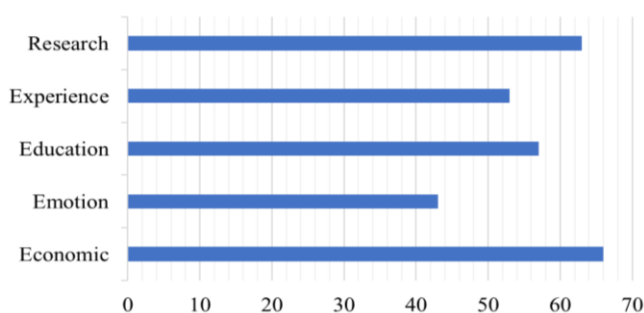


Figure 6. Percentage of coffee value explanation to CBT

Table 4. Symbiosis coffee value toward CBT (\*\*\*) $<0.001$

Value	Standardized estimate	Nonstandardized estimate	S.E.	C.R.	SMC	P
Economic	0.816	4.45	0.71	4.88	0.666	***
Emotion	0.794	3.73	0.68	3.80	0.435	***
Education	0.730	3.23	0.69	4.15	0.568	***
Experience	0.754	3.69	0.76	3.18	0.533	***
Research	0.660	3.54	0.70	3.52	0.631	***

From Table 4, the respondents highlighted the coffee symbiosis to CBT according to the standardized loading are on economic, emotion, experience, education and research respectively. As we can notice that all value variables are having significant p value less than 0.001. Where, the economic  $\beta = 0.82$ , C.R. = 4.88, followed by emotion  $\beta = 0.79$ , C.R. = 3.80, experience  $\beta = 0.75$ , C.R. = 3.18, education  $\beta = 0.73$ , C.R. = 4.15, and research  $\beta = 0.66$ , C.R. = 3.52. On the contrary, the square multiple correlation (SMC) of some value loadings is rather high and not consistent to its loading, for instance the research loading value is lowest but the explanation power from SMC value comes in the second after economic. As well as, the education SMC value is ranking in the third. It may be that these respondents benefitted from the research and education, and see the importance of research and education could return to the community development. This are remarkable findings the coffee symbiosis three highest loadings value toward CBT are economic, emotion, and experience. These are somewhat encouraging results on the statistic power of explanation that economic value has 66 percent, research value has 63 percent, and education value has 57 percent impact on CBT sustainability. The statistic power of explanation has been concluded and demonstrated in Figure 6.

It can thus be suggested that the continuous learning and development and research on Pang Khon village shall be implemented. This observation may support the findings that the village lack of managerial issues on both quantitative and qualitative. Thence, the research and instruction could possibly fill the interrelation gaps of the CBT ecological system, and how the part of coffee plant could deliver the mouthwatering taste. This study has drawn our attention to the interaction of symbiotic unit, mode, and environment. It might help us to shape the tourism industry in other part of the country.

### CONCLUSION AND RECOMMENDATIONS

Taking everything into account, Pang Khon village has high potential of success community-based coffee tourism. The village meets both the MOT agro-tourism and CBT standards of 7As. Addedly, besides natural resources, there is the uniqueness of the village that consist of four ethnics groups which tourists can experience culture, norms, belief, and the freshness of coffee from its original source. The symbiosis of coffee to CBT has generated economic, education,

emotion, and experience values. Whilst, the research value sounds crucial on CBCT. Further study and development on the community-based coffee tourism on Pang Khon is required. The insights gained from this study may be of assistance to local government, public service organizations, community and all stakeholders create development plan, continuous learning and development of human resources. Whereas, the education sectors in the area emphasize on research and innovation. One of the strengths of this study is that it represents a comprehensive examination of the whole coffee symbiosis value. Another important practical implication is that the creation of innovative products embracing value added; (1) providing new products and services to create economic, educational, and experience value by allowing travelers to rent Ahkha costumes, adding snack menu compliment with tea and coffee, decoration of dishes with natural materials, educate tourists on the jungle excursion; (2) improvement of new products and services to create educational value, alike briefing village history and community information, provide knowledge of herbs, vegetables to be used in cooking; (3) adding existing products and services to create tourists' experience, for example; create coffee recipe competition, teaching for knitting, sewing and making bracelets in Ahkha style. As once, the CBCT were perceived widely, it would certainly trigger the value return to community. Specifically, the economic value will beneficially enhance the 7As improvement serving the travelers' needs as well as the tourism logistic system as a whole. In sum, researcher has formulated the coffee symbiosis value to 7As. That leads to the perception and satisfaction of tourist which is finally create intention to revisit as demonstrate in Figure 7.

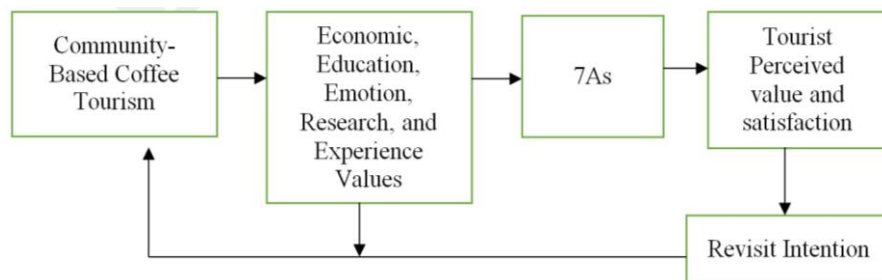


Figure 7. Community-Based Coffee Tourism Model

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