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Evaluation of Recreational Benefit for Natural Tourism Quality Improvement in Mae Wang District, Chiang Mai, Thailand

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Abstract: The study aims to determine factors affecting visitor's decision in travelling to natural tourism sites and evaluating the recreational benefit value of the natural tourism sites in Mae Wang district, Chiang Mai, Thailand. The accidental sampling technique is utilized to collect 400 questionnaires. The recreational benefit value was analysed with Individual Travel Cost Method (ITCM). The research reveals that factors affecting visitor's decision are visitors' income, visitors' attitudes, frequency of travelling to natural tourism sites, travel cost to Mae Wang tourism sites, and travel cost to alternative tourism sites. The estimated recreational benefit value of the natural tourism sites in Mae Wang district in 2015 is 181,194,840 Baht (5,019,247 USD). The recreational demand in Mae Wang district would also increase as a result of the natural tourism quality improvement. Additionally, the average consumer surplus per time would be 17.88% increased and the recreational benefit value of tourism sites would be 70.75% increased. The result suggests local community should focus on improving facilitating services, building positive attitudes, tourist activities, tourism sites maintenance, and income planning gained from consumer surplus.

Key words: *Recreational benefit, Consumer surplus, Individual Travel Cost Method (ITCM), Mae Wang District, Thailand.*

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1. Introduction

Tourism plays an important role in developing Thailand's economy by providing the circular flow of income in economic system. The local tourism creates jobs and earns more income circulating in the community and further improving community's economy. Tourism sites, the main tourist products, are crucial parts of successful tourism as tourism sites are the destination points of a travel. Therefore, it is necessary for tourism sites need to be ready for serving visitors. The tourism sites are encouraged to create recreational benefit value to satisfy visitors, make them content with the experience, and feel the traveling expense well-spent. Natural tourism sites, in particular, musts strive to maintain and preserve the abundance of nature for the reason that it is the main force to enhance visitors' demand (Lee, 2009).

Thailand is one of the world's most popular tourist destinations, filled with natural, activities, cultural and historical. Chiang Mai is a second largest city of Thailand, known as Thailand's northern capital. It offers a diverse range of nature and historical attraction scenic mountains, including the comprehensive service comfortable facilities. Chiang Mai province has such charm concerning natural tourism sites. One of those charming places where are well recognized and highly favored among visitors is located in Mae Wang District or well known as tourism sites along the Wang River. Eighty-one percent of the tourism sites are located in Mae Win subdistrict (Chuchart, 2001a). The tourism sites are popular due to their natural attractive factors which are water sources, main rivers, caves, waterfalls, historical sites and local handicraft centers. Seventy-eight point nine four percent of community's citizen are hill tribe people (Subdistrict Administration Organization of Mae Win, 2014). There are diversities in ethnic groups, cultures, traditions and lifestyles in the community. Especially, there are four royal project foundations located in Mae Win sub district. Consequently, there are several kinds of vegetables, fruits, winter flowering plants and the famous attraction for admiring wild Himalayan cherry in Chiang Mai, Thailand. The outstanding attraction is that there are plenty of recreational activities such as elephant riding, nature admiring, bamboo rafting, trekking, and hill tribe lifestyle experiencing including homestay in Sobwin Village, where is certified under Thai homestay Standard since 2008 (Ministry of Tourisms and Sports, 2014). This helps increase the number of visitors in the community for the whole year. It can be presumed that Mae Wang District is the potential place for tourism with activities that build a lot of economic benefiting for community (Chuchart, 2001a)

Although, the potentiality concerning tourism resources of Mae Wang District is the strength which can be further developed into economic opportunities for the local community, tourism sites in Mae Wang District still lack of handiness in facilitating visitors' needs, such as accommodation, tourist information center, souvenir shop, clean toilet and waste management. The recreational activities in the district likewise affect the declination of tourism resources. If there is no improvement and maintenance of tourism services, facilities, and abundance of tourism resources, these will affect tourism demand in the future. Although there are several studies concerning the tourism development in Mae Wang District such as Waiapa et al.(2012),Thongma (2009), Ritnetikul (2004), and Chuchart (2001a). Yet, those studies aimed at developing tourism potentiality which is tourism supply, rather than tourism demand.

According to the aforementioned problems, to find the right and proper guideline in maintaining and stimulating tourism demand in Mae Wang District, there should be a study focusing on the factors affecting visitors' decision on traveling to Mae Wang District. The data relevant to tourism demand shall reflect expected earned income and will be important data for policy making, strategies planning and management related to tourism supply (Khaosa-ard, 2013). There should also be evaluation of tourism sites' recreational benefit value in Mae Wang community to reflect the satisfaction and the willingness to pay of the visitors. Once the evaluation is established, the demand can be estimated and the recreational benefit can be calculated. Moreover, the facilitating services can be improved, the tourism sites can be better maintained, and the community can finally be ready to serve their visitors. The result of the study can be applied as reference for developing a tourism plan in Mae Wang community, which can help better meet visitors' needs, generate higher recreational benefit, and encourage revisit the community. Finally, the economic benefits gained from tourism will continue to circulate within Mae Wang Community, so the community can sustain itself. The research objectives of this study are as follows: 1) to determine factors affecting visitors' decision in traveling to natural tourism sites in Mae Wang District, Chiang Mai Province, Thailand; 2) to evaluate the change of recreational benefit value when there is improvement of tourism sites' quality.

2. Theoretical Basis of Evaluating the Recreational Benefit

Recreation demand is the needs of visitors to visit or to do recreational activities in tourism sites of Mae Wang community. The demand is measured by counting

number of visits that the visitors come for recreational benefits within one year period. In this research there were two cases of recreation demand, first, recreation demand from tourism sites under the current condition refers to number of visits that the visitors come or do recreational activities in tourism sites of Mae Wang community within one year; second, recreation demand in an improved quality of tourism sites refers to number of visits that the visitor expects to come to visit or do recreational activities in tourism sites of Mae Wang community within one year when quality of the tourism sites in Mae Wang community is assumed to be improved to be better.

The recreation demand curve can be drawn from the relations between the visiting frequency and the traveling expense including the characteristic data of the visitors (Rattanataweesophon and Phetcharanon, 2006). The recreational value or traveling in tourism sites is the incurred value derived from the willingness to pay in the tourism sites. In term of economy, such value can be estimated from recreation demand curve (Asawilanon, 1995). If the tourism sites quality is improved, the demand and recreational value after improvement can be estimated.

Consumer surplus is the difference between what individual is willing to pay for goods and service, and the total amount of money that the individual has to pay at the market price (Chutiwong, 2011) The consumer surplus reflects the satisfaction of the consumer towards the goods and service or the value of money that the consumer is willing to pay to get the service of products. It can be considered that the consumer surplus is the profits or utility that consumers receive from consuming the product. For the total consumer surplus from traveling can be calculated from the area under demand curve between travel cost and the choke price that affect the visitors to not travel at all (Na-Bangchang and Srisaowaluck, 2009).

Travel cost refers to the total costs that consist of explicit costs and implicit costs. The explicit costs are costs in monetary term that the visitors spend for traveling, which comprises round-trip travel cost and other expense in the trip. Implicit costs or opportunity cost is incurred due to traveling and travel time estimated with 0.33 or 1/3 of individual visitor's wage (Cesario, 1976), multiplied by total round-trip travel time including time spent of the visitors for recreational activities at the tourism sites in Mae Wang community. The working hour of each traveler is set equal to 20 days per month and working hour is set to be equal to 8 hours per day. The value of time is set in minute scale.

Travel Cost Method (TCM) is a popular method in evaluating benefits or recreational value of natural resources and environment for tourism sites

(Silapararachawong, 2013). This method is the direct benefit valuation of resources. However, tourism is the service that is not delivered through market. Therefore the valuation needs to use travel cost and traveling expense to replace the price of the service. Several well-known studies concerning the valuation of recreational tourism sites conducted their research by applying TCM, such as Chaiprasit and Maneenet (2010), Na-Bangchang, et al. (2010), Rattanataweesophon and Phetcharanon (2006), Rattanaphan, Petcharanont, and Praneetwatakul (2004), Himayatullah (2003), Nam and Son (2001). There are two methods of TCM, which are Zonal Travel Cost Method (ZTCM) and Individual Travel Cost Method (ITCM). ZTCM collects zonal traveling data to explain the overall behaviors of visitors in each zone. ITCM collects individual visitor's data to create individual recreational demand model and individual recreational demand curve. The dependent variable used in such model is number of visits to the tourism sites for an individual visitor within a limited period. The independent variable is the expense while traveling to the tourism sites and other variables (Petcharanont, 2000). The individual can find the maximized utility under the constraint relevant to budget and time. Therefore, to construct the demand curve, the following data are required: 1. the expense and opportunity cost incurred from traveling which represent the price, and 2. the number of visits at the tourism sites (Silapararachawong, 2013).

$$Qi = f(TCi, Xi) \qquad (1)$$

Qi= the number of visit to tourism sites per 1 year of the visitors as the sample data,
TCi= the overall expense incurred from traveling of individual visitor including money spent and opportunity cost from such traveling.
Xi= Economic and social variables of the visitors

The study decided to apply ITCM model to evaluate recreational benefit value of tourism sites in order to further investigate demand factors of visitors. This is different from ZTCM model which collects zonal data to explain overall behavior of the visitors who might have diverse behaviors, tastes, and needs despite visiting the same tourism sites.

3. Research Methodology

3. 1. Data Collection

The research populations were Thai visitors who visited tourism sites in Mae Wang community, Chiang Mai, Thailand. The study area covers all tourism sites in

Mae Wang community. These refer only to existing tourism sites in the area of Mae Win Subdistrict, Mae Wang District, Chiang Mai Province, Thailand. These tourism sites are under responsibility of Mae Win Subdistrict Administration Organization which in charge of the attractions along Mae Wang River, such as elephant camps, river rafting sites, five waterfalls, and four Royal Project Centers. The study concentrated only on the recreational value incurred on-site while visitors visiting Mae Wang. This excluded officers and entrepreneurs working in Mae Wang. Using accidental sampling technique, 400 questionnaires were collected by circulating structured questionnaire in the research site. The questionnaires were separately circulated to each tourism site to collect data during both working days and holidays from April 2015 to December 2015.

Instrumentation

The questionnaire used for collecting data contained items that cover all issues in the research objectives. The items were divided into five parts which are: 1. seven questions about personal data of the visitors; 2. ten questions about traveling characteristics and recreational activity participation of the visitors; 3. six questions about traveling cost; 4. six questions about attitudes and satisfaction toward tourism sites; and 5. three open-ended questions about requirements and suggestions of the visitors. The questionnaire validity was tested. The content validation revealed that the validity coefficient for all questions were higher than 0.50, which means the effectiveness of survey items was ensured (Petchroten & Chamniprasart, 2002; Rossiter, 2011). The reliability of questionnaire was tested with Cronbach's alpha (α) coefficient. The criterion was set at the confidence value of α no less than 0.70. The test result showed a considerably reliable Cronbach's α value at 0.968, which is higher than the criterion of 0.70. The validity and reliability of the research instrument were both tested to be satisfactory or beyond, thus proved to be qualified for the data collection.

3. 2. Data Analysis

3.2.1. Factors affecting visitors' decision in traveling to tourism sites in Mae Wang Community

The recreational demand model of the individual was created by using the ITCM method. The analysis was based on Multiple Linear Regression Function by using the technique of Ordinary Least Square (OLS) to analyze the relationship between the independent variables and the dependent variable, as listed in Table 1. The model of recreation demand on the tourism sites can be illustrated in equation (2) as follows.

$$V = f(TCi, TSi, Geni, Agei, Cri, Inci, Exi, Stti, Inci, Exi, Edui, Atti, Sati) \quad (2)$$

Table 1. Studied Variables and Their Measurement

Variable	Definition
Dependent Variable V	Number of visits of the individual to the tourism sites per year.
Independent Variables	Travel cost of the i^{th}individual to the tourism sites in Mae Wang district (Baht/Visit)
TC_i	
TS_i	Travel cost of the i^{th}individual to alternative tourism sites (Baht/Visit)
Gen_i	Gender (0 = Male, 1= Female)
Age_i	Age (years)
Cr_i	Profession (0= governmental officer, 1= others)
Stt_i	Marital Status (0=Married/Divorced/Widow, 1= Single)
Inc_i	Income (Baht/Month)
Ex_i	Frequency of traveling to natural tourism sites (number of visit/ year)
Edu_i	The highest educational attainment/ years of education (6 = primary school, 9 = Junior High School, 12= Senior High School/ Vocational Certificate, 14 = Diploma/ High Vocational Certificate, 16 = Graduate, 18 = higher than graduate)
Att_i	Visitor attitudes (0 = Worst quality and service of tourism sites, 1 = Good quality and service of tourism sites)
Sat_i	Visitor satisfaction towards tourism sites (1 = least satisfied, 2 = less satisfied, 3 = moderately satisfied, 4 = very much satisfied, 5 = extremely satisfied)

The primary data from the conducted survey were analyzed in various function form, linear, log-linear, linear-log, and double-log. The proper individual demand equation that shows the relation between the dependent variables and the significant independent variables was considered from the highest value of Coefficient of Determination (R^2) and the coefficient of F-test. The individual demand equation in this study has two cases, the individual demand at the present tourism sites condition

(V1) and the individual demand in case of improved quality of tourism sites (V2). Thus, the demand equation can be specified in equation (3) and (4) as follows:

$$V1_i = \beta_0 + \beta_1 TC_i + \beta_2 TS_i + \beta_3 Gen_i + \beta_4 Age_i + \beta_5 Cr_i + \beta_6 Stt_i + \beta_7 Inc_i + \beta_8 Ex_i + \beta_9 Edu_i + \beta_{10} Att_i + \beta_{11} Sat_i \quad (3)$$

$$V2_i = \beta_0 + \beta_1 TC_i + \beta_2 TS_i + \beta_3 Gen_i + \beta_4 Age_i + \beta_5 Cr_i + \beta_6 Stt_i + \beta_7 Inc_i + \beta_8 Ex_i + \beta_9 Edu_i + \beta_{10} Att_i + \beta_{11} Sat_i \quad (4)$$

$\beta_0, \beta_1, \beta_2, \ldots \beta_{11}$ = Parameters

$$CSi = \int_{TCa}^{TC^*} (V)dTC \quad (5) \qquad ACS = \frac{CS_i}{\bar{V}} \quad (6) \qquad CS = ACS \times N \quad (7)$$

Table 2. Variables for Calculating Consumer Surplus

Variables	Definitions
CS_i	Individual consumer surplus (Baht/ Person/ Year)
ACS	Average consumer surplus (Baht/ Time)
CS	Total consumer surplus or the recreational benefit value of the tourism sites (Baht/Year)
V	Individual recreational demand function V_1 = Individual recreational demand function towards sites in the present condition V_2= Individual recreational demand function in case ofthe quality of tourism sites have assumed to be improved
TC_a	Average travel cost of the sampling visitors (Baht/ Time)
TC*	Choke Price (Baht/Time) calculated from the value at 99th Percentile of travel cost.
$\bar{V}$	Average number of visits to the tourism sites (Time/ Year)
N	Number of population visit the tourism sites during the studying period

4. Results and Discussions

4.1. Demographic Information of Tourists

From the collected data, it revealed that tourists visiting Mae Wang Community, Chiang Mai Province, comprises of 50.75 % male and 49.25% female. Fifty-two point seventy-five percent of the participants range from 21 to 30 year old. Fifty-five percent of them are single. Twenty-eight of them are entrepreneurs. The average income per month is 11,739.80 Baht (325.20 USD) and it is lower when compared

with the average income of the country which is 17,373.42 Baht (481.26 USD). Nineteen point seventy-five percent of them live in Mae Wang district, 55.25% of them live in other districts in Chiang Mai, and 25% of them live in other provinces in Thailand.

4.2. Visitors' Decision on Traveling to Natural Tourism Sites in Mae Wang Community

The result was obtained by applying ITCM method to create a recreational demand model in the form of multiple linear regression equation. The analysis indicated that double log equation is the most proper form while R-square at 0.7972 and the F-value in the confident interval of 99%. Therefore, the double log equation was applied to estimate individual recreational demand by selecting independent variables significantly related to dependent variables with more than 95% confidence level as shown in Table 3.

In regard of the tourism sites at the present condition, the research showed that factors significantly affecting the decision of the visitors at the 99% confidence level are: visitors' attitudes (Att), the frequency of traveling to natural tourism sites (Ex), travel cost to the tourism sites in Mae Wang District (TC), and travel cost to the alternative tourism sites (TS). Moreover, the visitors' income (Inc) has influenced on the visitors' decision at the 95% confidence level.

Table 3. Analysis of Factors Affecting Visitors' Decision in Traveling to Mae Wang Community

Independent Variables	Coefficient	t- ratio	p-value
Constant	0.7119**	2.108	0.0356
ln (Inc)	-0.0928**	-2.009	0.0453
Att	0.2889***	6.884	0.0000
ln (Ex)	0.7050***	20.866	0.0000
ln (TC)	-0.3985***	-9.318	0.0000
ln (TS)	0.3528***	6.482	0.0000

Note. F-Value =308.57*** R-square = 0.7966 Adjusted-R-square=0.7940 n=400**and *** indicate a significant level at 5 percent and 1 percent respectively

Considering coefficient (Inc) is a negative value, it explains that if visitors have more income, they are less likely to visit Mae Wang Community. Whereas coefficient (Att) is a positive value, it means that if visitors have positive attitudes towards quality and service of tourism sites, they are more likely to visit Mae Wang Community. Then, coefficient (Ex) is a positive value; it explains that visitors visit the natural tourism sites within a year with high frequency are likely to visit at Mae Wang Community frequently as well. Next, coefficient (TC) is in a negative value, it means that if visitors' travel cost is higher, the frequency to visit the tourism sites will be less. Finally, the coefficient (TS) is a positive value; it means that if the travel cost for visiting alternative tourism sites is more expensive, the visitors are likely to visit Mae Wang Community more frequently.

From Table 3, the equation on individual recreational demand of the visitors towards the tourism sites at present condition can be written as:

$$lnV1=0.7119-0.0928ln(Inc)+0.2889Att+0.705ln(Ex)-0.3985ln(TC)+ 0.3528ln(TS) \quad (8)$$

From equation (8), when setting other independent variables as constant, the relations between variable V1 and (TC) can be written as equation (9) and (10)

$$lnV1 = 4.112 - 0.3985ln\,(TC) \quad (9)$$

$$or\ V1= e^{4.112- 0.3985\ ln\ (TC)} \quad (10)$$

Individual recreational demand equation, in the case ofimproving the tourism sites quality with $R^2 = 0.7945$ can be written as:

$$lnV2=1.1215-0.1061ln(Inc)+0.1170Att+0.6567ln(Ex)-0.2090ln(TC)+0.2191ln(TS)11)$$

$$lnV2= 3.191- 0.2090ln(TC) \quad (12)$$

$$orV2= e^{3.191- 0.2090ln\ (TC)} \quad (13)$$

The study showed that if tourism sites' quality is improved for the better service and the tourism sites' nature is well maintained, the factors affecting visitor's decision on traveling to Mae Wang with the level of significance in statistics are: visitors' income (Inc), visitors' attitudes (Att), the frequency of traveling to natural tourism sites (Ex), travel cost to the tourism sites in Mae Wang district (TC), and travel cost to alternative recreational tourism sites (TS). The recreational demand after improving the tourism sites can thus be estimated. The demand trend line can

be constructed and the recreational benefit value of the sites after improvement can be evaluated.

The study showed, improving the tourism sites enhances the recreational demand level, which can be considered as V= *f*(TC) shown in equation (10) and (13). When the demand trend line of the traveling to the sites is constructed, the change can also be observed (Figure 1).

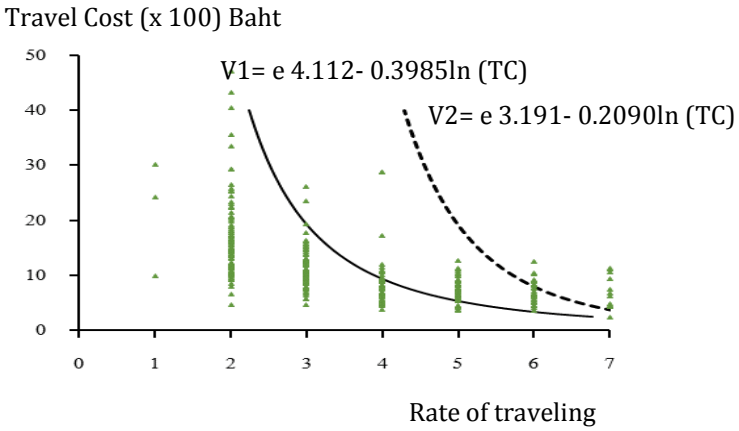

Figure 1. Demand Trend Line of Traveling to Tourism Sites in Mae Wang Community

consumer surplus, CS, calculated from equation (7) which is the value of recreational benefits of Mae Wangtourism sites under the current condition in the year 2015, is 181,194,840 baht (5,019,247 USD). According to the survey, when quality of the Mae Wang tourism sites is assumed to be improved, the average number of visits of visitors was found to increase to 5.91 times per year. The CSi as calculated is equal to 11,688.36 baht (323.78 USD) per year. The ACS can be calculated is equal to 1,977.73 baht (54.78 USD) per person per time. From the results, it shows that after the improvement of the tourism sites, the average numbers of visits of the visitors will be 44.85% increased. The consumer surplus for each trip of the visitors will be 17.88% increased and the recreational benefit value per visitors per year will be 70.75% increased as shown in Table 4.

V1 is the recreational demand curve indicating visitors' tendency toward the tourism sites in the present condition. V2 is the recreational demand curve of the visitors' tendency toward the tourism sites after improvement, such as having better garbage management, more efficient natural resources maintenance, etc. As a result, the change of recreational demand curve changed from V1 to V2 as shown in Figure

1. The change explains that if there is improvement of the tourism sites, the visitors then increase their demand in traveling to the sites.

Table 4. Change of Recreational Benefit Value of Tourism Sites

Evaluated Result	Tourism Sites' Condition at Present	In the Case of Quality has Improved	% of changed
Average Number of Visits (Time/Year)	4.08	5.91	44.85
Recreational Benefit Value (Baht/Person/Year)	6,845.12 (189.61 USD)	11,688.36 (323.78 USD)	70.75
Average Consumer surplus (Baht/Visit)	1,677.73 (46.47 USD)	1,977.73 (54.78 USD)	17.88

The traveling cost of visiting Mae Wang of the sampled visitors at the 99th percentile, which represents the Choke Price, TC*, was found to be 3,552.90 baht (98.42 USD) per time. Meanwhile, the average traveling cost, TCa was found to be 1,147.41 baht (31.78 USD) per time. When replacing the values of TC* and TCa in equation (5) the individual consumer surplus, CSi, as obtained from the calculations equal to 6,845.12 baht (189.61 USD) per person per year. Next, the average consumer surplus, ACS that calculated from equation (6) is found to be 1,649.43 baht (46.47 USD) per person per time. Number of the population of visitors during the whole year of study, N, is 108,000 persons. The total

In economics, when concerning buyer's purchase decision behaviors, consumers will seek for utmost satisfaction under the condition of constrained income and market price (Chutiwong, 2011). Based on the finding, the study suggested that a number of factors come into play when visitors making their decision in purchasing traveling products or choosing traveling destinations. Furthermore, consistent with Seckelmann (2002), Himayatullah (2003) and Chuchart (2001b) studies, which suggested that hospitality factor, visitors' satisfaction, re-visiting to the same tourism sites, are the result of quality of personnel and tourism site. The study found that visitors' attitude towards quality and service of the tourism sites is an important factor when making decision about traveling or purchasing on tourism sites.

One of the characteristics of the visitors visiting Mae Wang is that they favor natural tourism sites. The study found that the frequency of traveling to the natural sites is a decisive factor affecting visitors' decision in choosing tourism sites. According to the study Chuchat (2001a), tourism sites of Wang River Basin have a

advantage in terms of attractiveness of natural attractions. Therefore, in order to sustain demand of visitors, tourism sites in Mae Wang must maintain their attractive natural resources, beautiful landscape, clean air, and diverse recreational activities. In other words, while visitors are looking for different service in tourism sites, in this case, nature of the tourism sites provides quality recreational benefit value for visitors. On the contrary, if tourism sites fail to provide quality recreational benefit value to a satisfactory level or worth of the money, as the study found travel cost has influence on visitors' decision, the number of visitors will be decreased and visitors will choose to travel to elsewhere.

Next, the study found that visitors' income is related to travel demand of Mae Wang District, which is similar to what Himayatullah (2003) and Na-Bangchang et al. (2010) found in their studies. However, in terms of economics, this study recognized that Mae Wang's tourism sites can be a characterized as inferior goods. Problems such as garbage or unreadiness in facility arrangement lead to low tourism sites quality. As a result, visitors with more income might choose to travel to other tourism sites. Nevertheless, travel cost factor is conversely related to traveling frequency according to law of demand. The lower the travel cost, the higher the travel frequency. The visitors who experienced low travel cost will have more opportunities in gaining consumer surplus from traveling than those spending higher travel cost (Trejos, Chiang, and Huang, 2008).

Finally, the improvement of tourism sites' quality plays an important role in stimulating more travel demand. The visitors will gain more consumer surplus once the quality of tourism sites is enhanced. Therefore, it is imperative for Subdistrict Administration Organization of Mae Win to encourage and assist tourism sites in Mae Wang District in developing tourism improvement plan to better meet the needs of visitors, and eventually increase the economic value and growth for the local Mae Wang Community.

The generated individual recreational demand model by applying ITCM method pointed out that factors affecting visitors' decision in traveling to Mae Wang at present and in case of the quality is improved are: visitors' income, visitors' attitudes, the frequency of traveling to natural tourism sites, travel cost to the tourism sites in Mae Wang Community, and travel cost to alternative recreational tourism sites. The recreational benefit value of tourism sites in 2015 is 181,194,840 Baht (5,019,247 USD). However, according to the finding, if there is quality improvement of the tourism sites, the consumer surplus will be 17.88% increased and recreational benefit value of the tourism sites in Mae Wang District will be 70.75% increased.

Conclusion

Tourism sites' quality improvement should prioritize enhancing quality of service and facilities, because overall community hospitality can lead to positive visitor's attitude, make visitors satisfied, and in an economic sense, see Mae Wang as normal goods. As visitors might gain more income, but they will still keep visiting Mae Wang. In Mae Wang's case, natural tourism resources is a valuable attractive factor, so the community should strive to preserve its natural resources. The community should plan activities in addition to recreational activities such as elephant riding and bamboo rafting. More cultural and festive activities should be created to make sure the community has a year-round tourism program for visitors. Concerning consumer surplus, the study reflects that visitors are actually willing to pay. Therefore, there should be a decent quality plan in profiting by stimulating visitors' expense such as Mae Wang unique souvenirs gift shops. All in all, in order to really help local communities to sustain themselves, in the long term, the awareness of natural resources preservation, economic value, community growth, tourism site quality, should be circulated between local community as well as visitors (Nault and Stapleton, 2011).

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